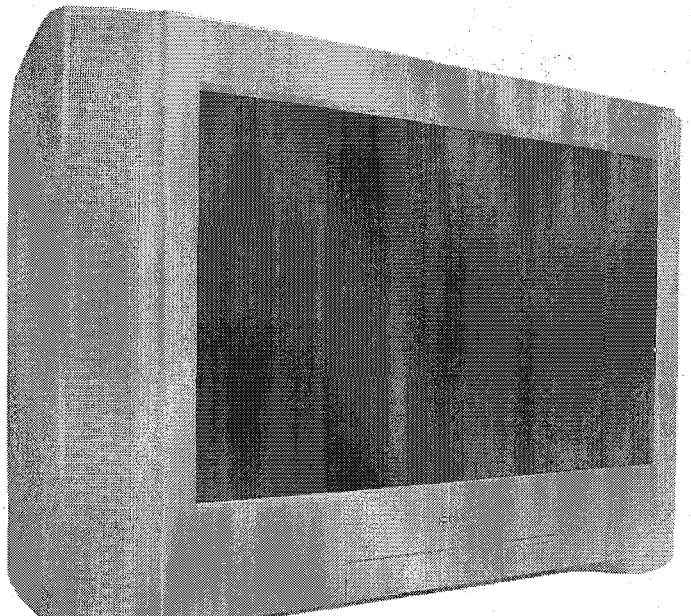
Self Diagnosis Supported model

SERVICE MANUAL

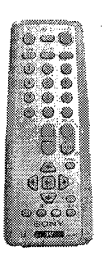
FE-2 CHASSIS

MODEL	COMMANDER	DEST	CHASSIS NO.	MODEL	COMMANDER	DEST	CHASSIS NO.
KV-29CL10B	RM-946	FR	SCC-Q54Q-A	KV-29CL10K	RM-946	OIRT	SCC-Q51P-A
KV-29CL10E	RM-946	ESP	SCC-Q53R-A	KV-29CL10U	RM-946	UK	SCC-Q52N-A

FD Trinitron



KV-29CL10



RM-946

TRINITRON ® COLOR TV

SONY®

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CAUTION

SHORT CIRCUIT THE ANODE OF THE PICTURE TUBE AND THE ANODE CAP TO THE METAL CHASSIS, CRT SHIELD, OR THE CARBON PAINTED ON THE CRT, AFTER REMOVAL OF THE ANODE CAP.

WARNING !!

AN ISOLATION TRANSFORMER SHOULD BE USED DURING ANY SERVICE WORK TO AVOID POSSIBLE SHOCK HAZARD DUE TO LIVE CHASSIS, THE CHASSIS OF THIS RECEIVER IS DIRECTLY CONNECTED TO THE POWER LINE.

SAFETY-RELATED COMPONENT WARNING !!

COMPONENTS IDENTIFIED BY SHADING AND MARKED ⚠ ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL FOR SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

ATTENTION

APRES AVOIR DECONNECTE LE CAP DE'LANODE, COURT-CIRCUITER L'ANODE DU TUBE CATHODIQUE ET CELUI DE L'ANODE DU CAP AU CHASSIS METALLIQUE DE L'APPAREIL, OU AU COUCHE DE CARBONE PEINTE SUR LE TUBE CATHODIQUE OU AU BLINDAGE DU TUBE CATHODIQUE.

ATTENTION !!

AFIN D'EVITER TOUT RISQUE D'ELECTROCUTION PROVENANT D'UN CHÁSSIS SOUS TENTION, UN TRANSFORMATEUR D'ISOLEMENT DOIT ETRE UTILISÈ LORS DE TOUT DÈPANNAGE LE CHÁSSIS DE CE RÈCEPTEUR EST DIRECTMENT RACCORDÈ Á L'ALIMENTATION SECTEUR.

ATTENTION AUX COMPOSANTS RELATIFS Á LA SECURITÈ!!

LES COMPOSANTS IDENTIFIÈS PAR UNE TRAME ET PAR UNE MARQUE ⚠ SUR LES SCHÈMAS DE PRINCIPE, LES VUES EXPLOSÈES ET LES LISTES DE PIECES SONT D'UNE IMPORTANCE CRITIQUE POUR LA SÈCURITÈ DU FONCTIONNEMENT, NE LES REMPLACER QUE PAR DES COMPSANTS SONY DONT LE NUMÈRO DE PIÈCE EST INDIQUÈ DANS LE PRÈSENT MANUEL OU DANS DES SUPPLÈMENTS PUBLIÈS PAR SONY.

ITEM MODEL	Television System	Stereo System	Channel Coverage	Color System
B	B/G/H, D/K, I, L	GERMAN/NICAM Stereo	VHF : E02-E12, F02-F10, UHF : E21-E69, F21-F69, B21-B69 CABLE TV : S01-S03, S1-S20, B-Q HYPER : S21-S41	PAL, SECAM NTSC4.43, NTSC3.58 (VIDEO IN)
E	B/G/H	GERMAN/NICAM Stereo	VHF : E02-E12 UHF : E21-E69 CABLE TV : S01-S03, S1-S20 HYPER : S21-S41	PAL, SECAM NTSC4.43, NTSC3.58 (VIDEO IN)
K	B/G/H, D/K	GERMAN/NICAM Stereo	VHF : E02-E12, R01-R12 UHF : E21-E69, R21-R69 CABLE TV : S01-S03, S1-S20 HYPER : S21-S41	PAL, SECAM NTSC4.43, NTSC3.58 (VIDEO IN)
U	I	NICAM Stereo	UHF : B21-B69	PAL, SECAM NTSC4.43, NTSC3.58 (VIDEO IN)

Picture Tube	Flat Display FD Trinitron Approx 72cm (29 inches) (Approx 68cm picture measured diagonally).	**Sound output**	
		Right and Left speaker	2x10W (Music Power) 2x5W (RMS)
Input/Output Terminals [REAR]		**General Specifications**	
1: 21-pin Euro connector (CENELEC standard)	Inputs for Audio and Video signals. Inputs for RGB. Outputs of TV Video and Audio signals.	Power Requirements	220 - 240V
		Power Consumption	94W
2: 21-pin Euro connector	Inputs for Audio and Video signals. Inputs for S-Video. Outputs of TV Video and Audio signals.(Selectable).Smartlink interface.	Dimensions	Approx 788 x 598 x 523mm
		Weight	Approx 45.8kg
		Supplied Accessories	RM-946 Remote Commander (1) IEC designated R6 battery (2)
		Other Features	Auto Noise Reduction, DQP & DF, Teletext,Smartlink.
Input/Output Terminals [FRONT]		**Remote Control System : Infrared Control**	
Headphone jack	stereo mini jack	Power requirements	3V dc 2 batteries IEC designation R6 (size AA)
Audio inputs	phono jacks		
Video inputs	phono jack		
Design and specifications are subject to change without notice.			

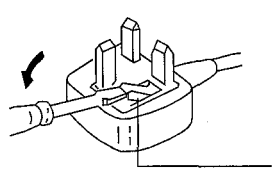
Model Name Item	KV-29CL10B	KV-29CL10E	KV-29CL10K	KV-29CL10U
PAP	OFF	OFF	OFF	OFF
PIP	OFF	OFF	OFF	OFF
RGB Priority	ON	ON	ON	ON
Woofer Box	OFF	OFF	OFF	OFF
Scart 1	ON	ON	ON	ON
Scart 2	ON	ON	ON	ON
Front in (3)	ON	ON	ON	ON
Scart 4	OFF	OFF	OFF	OFF
Projector	OFF	OFF	OFF	OFF
Norm B/G	ON	ON	ON	OFF
Norm I	ON	OFF	OFF	ON
Norm D/K	ON	OFF	ON	OFF
Norm AUS	OFF	OFF	OFF	OFF
Norm L	ON	OFF	OFF	OFF
Norm SAT	OFF	OFF	OFF	OFF
Norm M	OFF	OFF	OFF	OFF
Teletext	ON	ON	ON	ON
Nicam Stereo	ON	ON	ON	ON

WARNING (UK Models only)

The flexible mains lead is supplied connected to a **B.S. 1363** fused plug having a fuse of **5 AMP** rating. Should the fuse need to be replaced, use a **5AMP FUSE** approved by ASTA to **BS 1362**, ie one that carries the ASTA mark.

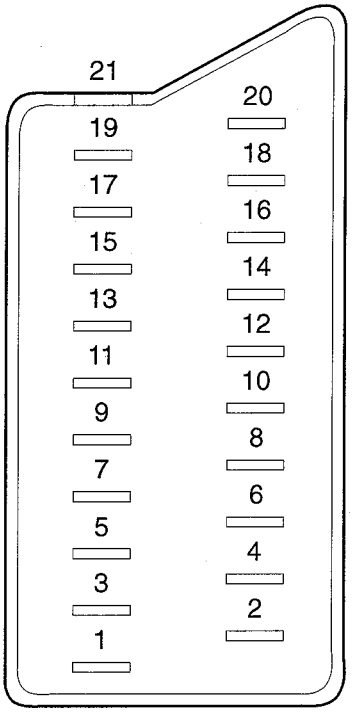
IF THE PLUG SUPPLIED WITH THIS APPLIANCE IS NOT SUITABLE FOR THE OUTLET SOCKETS IN YOUR HOME, IT SHOULD BE CUT OFF AND AN APPROPRIATE PLUG FITTED. THE PLUG SEVERED FROM THE MAINS LEAD MUST BE DESTROYED AS A PLUG WITH BARED WIRES IS DANGEROUS IF ENGAGED IN A LIVE SOCKET.

When an alternative type of plug is used, it should be fitted with a **5 AMP FUSE**, otherwise the circuit should be protected by a **5AMP FUSE** at the distribution board.



How to replace the fuse.
Open the fuse compartment with a screwdriver blade and replace the fuse.

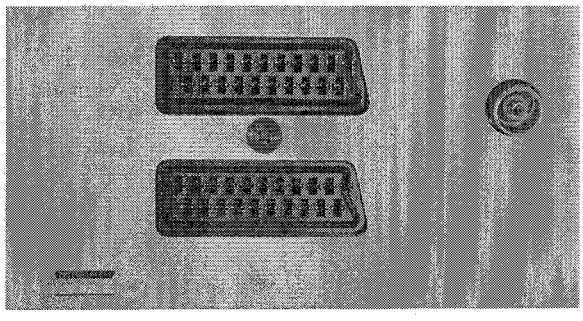
21 pin connector



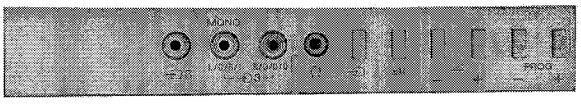
Pin No	1	2	4	Signal	Signal level
1	○	○	○	Audio output B (right)	Standard level : 0.5V rms Output impedence : Less than 1kohm*
2	○	○	○	Audio output B (right)	Standard level : 0.5V rms Output impedence : More than 10kohm*
3	○	○	○	Audio output A (left)	Standard level : 0.5V rms Output impedence : Less than 1kohm*
4	○	○	○	Ground (audio)	
5	○	○	○	Ground (blue)	
6	○	○	○	Audio input A (left)	Standard level : 0.5V rms Output impedence : More than 10kohm*
7	○	●	●	Blue input	0.7 +/- 3dB, 75 ohms positive
8	○	○	○	Function select (AV control)	High state (9.5-12V) : Part mode Low state (0-2V) : TV mode Input impedence : More than 10K ohms Input capacitance : Less than 2nF
9	○	○	○	Ground (green)	
10	○	○	○	Open	
11	○	●	●	Green	Green signal : 0.7 +/- 3dB, 75 ohms, positive
12	○	○	○	Open	
13	○	○	○	Ground (red)	
14	○	○	○	Ground (blanking)	
15	○	–	–	Red input	0.7 +/- 3dB, 75 ohms, positive
	–	○	○	(S signal Chroma input)	0.3 +/- 3dB, 75 ohms, positive
16	○	●	●	Blanking input (Ys signal)	High state (1-3V) Low state (0-0.4V) Input impedence : 75 ohms
17	○	○	○	Ground (video output)	
18	○	○	○	Ground (video input)	
19	○	○	○	Video output	1V +/- 3dB, 75ohms, positive sync 0.3V (-3+10dB)
20	○	–	–	Video input	1V +/- 3dB, 75ohms, positive sync 0.3V (-3+10dB)
	–	○	○	Video input Y (S signal)	1V +/- 3dB, 75ohms, positive sync 0.3V (-3+10dB)
21	○	○	○	Common ground (plug, shield)	

○ Connected ● Not Connected (open) * at 20Hz - 20kHz

Rear Connection Panel



Front Connection Panel



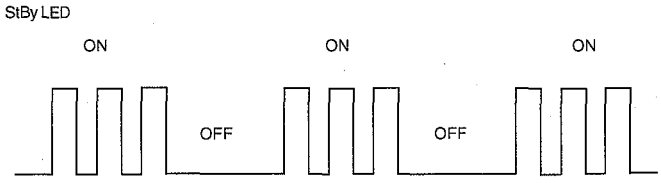
FE-2 SELF DIAGNOSTIC SOFTWARE

The identification of errors within the FE-2 chassis is triggered in one of two ways :- 1: Busy or 2: Device failure to respond to IIC. In the event of one of these situations arising the software will first try to release the bus if busy (Failure to do so will report with a continuous flashing LED) and then communicate with each device in turn to establish if a device is faulty. If a device is found to be faulty the relevant device number will be displayed through the LED (Series of flashes which must be counted) See table 1., non fatal errors are reported using this method. Each time the software detects an error it is stored within the NVM. See Table 2.

Table 1

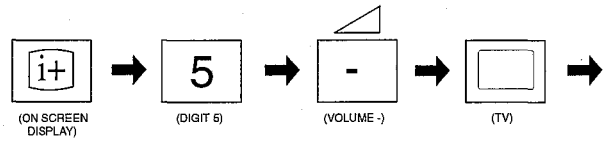
Error Message	LED Code
No error	00
Reserved	01
OCP (Over Current Protection)	02
Not Used	03
No Vertical Sync	04
IKR Error at power on	05
IIC bus clock and/or data lines low at power on	06
NVM no IIC bus acknowledge at power on	07
Not Used	08
Tuner no acknowledge at power on	09
Sound Processor Error	10
Jungle controller 8 volts error	11

Flash Timing Example : e.g. error number 3



How to enter into Table 2

1. Turn on the main power switch of the TV set and enter into the 'Stanby Mode'.
2. Press the following sequence of buttons on the Remote Commander.



3. The following table will be displayed indicating the error count.

Table 2

ERROR MENU			
E02	OCP	(0, 255)	0
E03	OVP N/A	(0, 255)	0
E04	VSYNC	(0, 255)	0
E05	IKR	(0, 255)	0
E06	IIC	(0, 255)	0
E07	NVM	(0, 255)	0
E08	JUNGLE	(0, 255)	0
E09	TUNER	(0, 255)	0
E10	SOUNDP	(0, 255)	0
E11	8V	(0, 255)	0
WORKING TIME			
HOURS			2
MINUTES			11

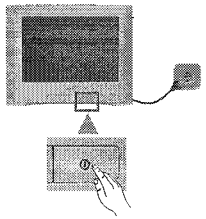
Note: To clear the error count data press '80' on the Remote commander.

The operating instructions mentioned here are partial abstracts from the 'Operating Instruction Manual'. The page numbers of the 'Operating Instruction Manual' remain as in the manual.

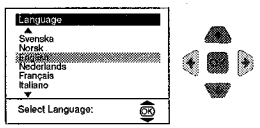
Switching On the TV and Automatically Tuning

The first time you switch on your TV, a sequence of menu screens appear on the TV enabling you to: 1) choose the language of the menu screen, 2) choose the country in which you wish to operate the TV, 3) adjust the picture slant 4) search and store all available channels (TV Broadcast) and 5) change the order in which the channels (TV Broadcast) appear on the screen.
However, if you need to change any of these settings at a later date, you can do that by selecting the appropriate option in the (Set Up menu) or by pressing the Auto Start Up Button ⏭ on the TV set.

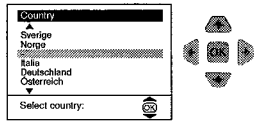
1 Connect the TV plug to the mains socket (220-240V AC, 50Hz)
Press the ⏻ on/off button on the TV set to turn on the TV. The first time you press this button, a **Language** menu displays automatically on the TV screen.



2 Press the ▼ or ▲ button on the remote control to select the language, then press the **OK** button to confirm your selection. From now on all the menus will appear in the selected language.

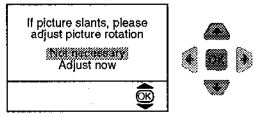


3 The **Country** menu appears automatically on the TV screen. Press the ▼ or ▲ button to select the country in which you will operate the TV set, then press the **OK** button to confirm your selection.



- If the country in which you want to use the TV set does not appear in the list, select "-" instead of a country.
- To avoid wrong teletext characters for cyrillic languages we recommend selecting Russia country if your own country does not appear in the list.

4 Because of the earth's magnetism, the picture might slant. The **Picture Rotation** menu allows you to correct the picture slants if it is necessary.

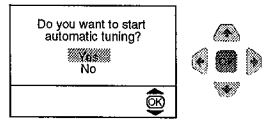


a) If it is not necessary, press ▼ or ▲ to select **Not necessary** and press **OK**.

b) If it is necessary, press ▼ or ▲ to select **Adjust now**, then press **OK** and correct any slant of the picture between –5 and +5 by pressing ▼ or ▲ . Finally press **OK** to store.

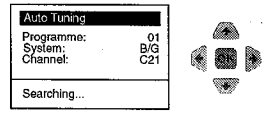
continued...

5 The Auto Tuning menu appears on the screen. Press the **OK** button to select **Yes**.

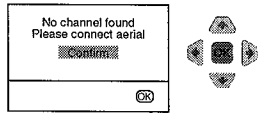


6 The TV starts to automatically search and store all available broadcast channels for you.

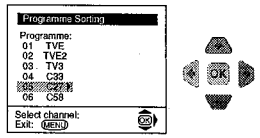
This procedure could take some minutes. Please be patient and do not press any buttons, otherwise the automatic tuning will not be completed.



If no channels were found during the auto tuning process then a new menu appears automatically on the screen asking you to connect the aerial. Please connect the aerial (see page 7) and press **OK**. The auto tuning process will start again.



7 After all available channels are captioned and stored, the **Programme Sorting** menu appears automatically on the screen enabling you to change the order in which the channels appear on the screen.



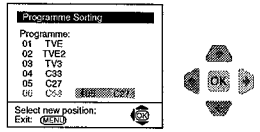
a) If you wish to keep the broadcast channels in the tuned order, go to step 8.

b) If you wish to store the channels in a different order:

1 Press the ▼ or ▲ button to select the programme number with the channel (TV Broadcast) you wish to rearrange, then press the ▶ button.

2 Press the ▼ or ▲ button to select the new programme number position for your selected channel (TV Broadcast), then press ◀.

3 Repeat steps b)1 and b)2 if you wish to change the order of the other channels.



8 Press the **MENU** button to remove the menu from the screen.

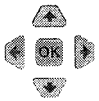
Your TV is now ready for use

Introducing and Using the Menu System

Your TV uses an on-screen menu system to guide you through the operations. Use the following buttons on the Remote Control to operate the menu system:

1 Press the **MENU** button to switch the first level menu on.

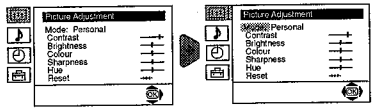
2 • To highlight the desired menu or option, press ↓ or ↑.
- To enter to the selected menu or option, press →.
- To return to the last menu or option, press ←.
- To alter settings of your selected option, press ↓/↑/← or →.
- To confirm and store your selection, press **OK**.



3 Press the **MENU** button to remove the menu from the screen.

Menu Guide

Level 1 **Level 2** **Level 3 / Function**

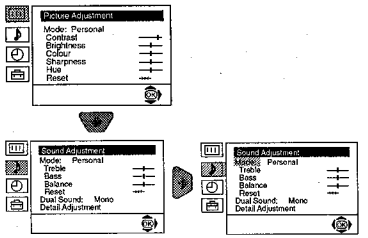


PICTURE ADJUSTMENT
The "Picture Adjustment" menu allows you to alter the picture adjustments.

To do this: after selecting the item you want to alter press →, then press ↓/↑/← or → repeatedly to adjust it and finally press **OK** to store the new adjustment.

- *This menu also allows you to customise the picture mode based on the programme you are watching:*
  Mode → ↓ ***Personal*** *(for individual settings).*
  ↓ ***Live*** *(for live broadcast programmes, DVD and Digital Set Top Box receivers).*
  ↓ ***Movie*** *(for films).*
- ***Brightness, Colour*** *and* ***Sharpness*** *can only be altered if "Personal" mode is selected.*
- ***Hue*** *is only available for NTSC colour signal (e.g: USA video tapes).*
- *Select* ***Reset*** *and press* **OK** *to reset the picture to the factory preset levels.*

Level 1 **Level 2** **Level 3 / Function**



SOUND ADJUSTMENT
The "Sound Adjustment" menu allows you to alter the sound adjustments.

To do this: after selecting the item you want to alter, press →, then press ↓/↑/← or → repeatedly to adjust it and finally press **OK** to store the new adjustment.

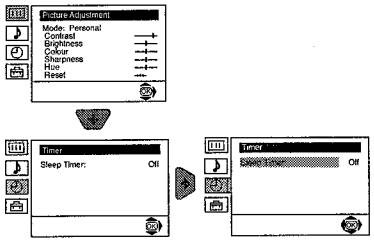
This menu also contains two submenus as following:

Mode →
- ↓ **Personal** (for individual settings)
- ↓ **Rock**
- ↓ **Pop**
- ↓ **Jazz**

Detail Adjustment →
- ↓ **Sound Effect:** →
  - ↓ **Off:** Normal.
  - ↓ **Spatial:** Acoustic sound effect.
- ↓ **Auto volume:** →
  - ↓ **Off:** Volume level changes according to the broadcast signal.
  - ↓ **On:** Volume level of the channels will stay the same, independent of the broadcast signal (e.g. in the case of advertisements).
- ↓ **TV Speakers:** →
  - ↓ **Off:** Sound from external amplifier connected to the audio outputs on the rear of the TV set.
  - ↓ **On:** Sound from the TV set.

- ***Treble*** *and* ***Bass*** *can only be altered if "Personal" mode is selected.*
- *Select* ***Reset*** *and press* **OK** *to reset the sound to the factory preset levels.*
- *In case of a bilingual broadcast select* ***Dual Sound*** *and set* ***A*** *for sound channel 1,* ***B*** *for sound channel 2 or* ***Mono*** *for mono channel if available. For a stereo broadcast you can choose* ***Stereo*** *or* ***Mono****.*

continued...

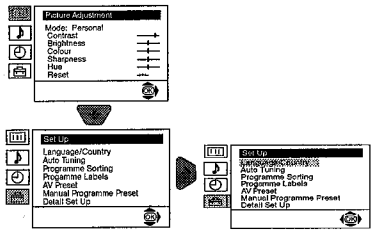


SLEEP TIMER

The "Sleep Timer" option in the "Timer" menu allows you to select a time period for the TV to switch itself automatically into the standby mode.

To do this: after selecting the option press ➧, then press ⬇ or ⬆ to set the time period delay (max. of 4 hours) and finally press **OK** to store.

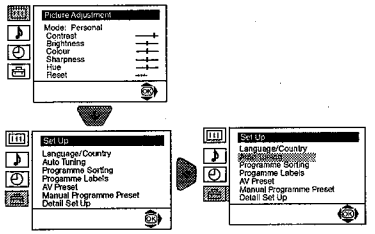
- *While watching the TV, you can press the ⊕ button on the remote control to display the time remaining.*
- *One minute before the TV switches itself into standby mode, the time remaining is displayed on the TV screen automatically.*



LANGUAGE / COUNTRY

The "Language/Country" option in the "Set Up" menu allows you to select the language that the menus are displayed in. It also allows you to select the country in which you wish to operate the TV set.

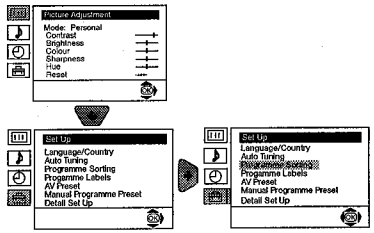
To do this: after selecting the option, press ➧ and then proceed in the same way as in the steps 2 and 3 of the section "Switching On the TV and Automatically Tuning".



AUTO TUNING

The "Auto Tuning" option in the "Set Up" menu allows you to automatically search for and store all available TV channels.

To do this: after selecting the option, press ➧ and then proceed in the same way as in TV steps 5 and 6 of the section "Switching On the TV and Automatically Tuning" on page 8.

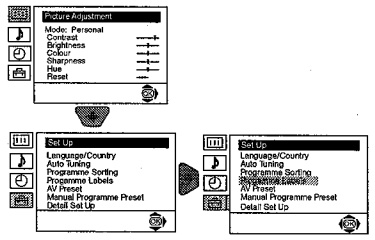


PROGRAMME SORTING

The "Programme Sorting" option in the "Set Up" menu allows you to change the order in which the channels (TV Broadcast) appear on the screen.

To do this: after selecting the option, press ➧ and then proceed in the same way as in step 7 b) of the section "Switching On the TV and Automatically Tuning" on page 8.

continued...



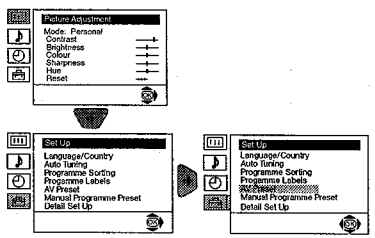
PROGRAMME LABELS

The "Programme Labels" option in the "Set Up" menu allows you to name a channel using up to five characters (letters or numbers).

To do this:

1 After selecting the option, press ➧, then press ⬇ or ⬆ to select the programme number with the channel you wish to name.

2 Press ➧. With the first element of the **Label** column highlighted, press ⬇ or ⬆ to select a letter or number (select "-" for a blank), then press ➧ to confirm this character. Select the other four characters in the same way. Finally press **OK** to store.



AV PRESET

The "AV Preset" option in the "Set Up" menu allows you to designate a name to the external equipment you have connected to the sockets of this TV.

To do this:

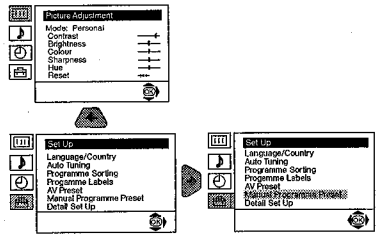
1 After selecting the option, press ➧, then press ⬇ or ⬆ to select the input source you wish to name (**AV1** and **AV2** are for the rear Scarts and **AV3** for front connectors). Then press ➧.

2 In the label column automatically appears a label:

a) If you want to use one of the 6 predefined label (**CABLE, GAME, CAM, DVD, VIDEO** or **SAT**), press ⬇ or ⬆ to select the desired label and finally press **OK** to store.

b) If you want to set a different label, select **Edit** and press ➧. Then with the first element highlighted, press ⬇ or ⬆ to select a letter, number or "-" for a blank, then press ➧ to confirm this character. Select the other four characters in the same way and finally press **OK** to store.

continued...



MANUAL PROGRAMME PRESET

The "Manual Programme Preset" option in the "Set Up" menu allows you to:

a) Preset channels or a video input source one by one to the programme order of your choice.
To do this:

1 After selecting the "Manual Programme Preset" option, press ▶ then with **Programme** option highlighted press ▶. Press ▼ or ▲ to select on which programme number you want to preset the channel (for VCR, select programme number "0"). Then press ◀.

2 The following option is only available depending on the country you have selected in the "Language/Country" menu.
After selecting the **System** option, press ▶. Then press ▼ or ▲ to select the TV Broadcast system (**B/G** for western European countries or **D/K** for eastern European countries). Then press ◀.

3 After selecting the **Channel** option, press ▶. Then press ▼ or ▲ to select the channel tuning ("**C**" for terrestrial channels or "**S**" for cable channels). Next press ▶. After that, press the number buttons to enter directly the channel number of the TV Broadcast or the channel of the VCR signal. If you do not know the channel number, press ▼ or ▲ to search for it. When you have tuned the desired channel, press **OK** twice to store.

Repeat all the above steps to tune and store more channels.

b) Label a channel using up to five characters.
To do this: Highlighting the **Programme** option, press the **PROGR +/-** button to select the programme number with the channel you wish to name. When the programme you want to name appears on the screen, select the **Label** option and press ▶. Next press ▼ or ▲ to select a letter, number or "-" for a blank. Press ▶ to confirm this character. Select the other four characters in the same way. After selecting all the characters, press **OK** twice to store.

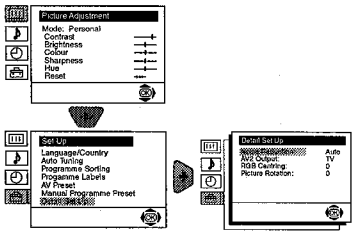
c) Normally the automatic fine tuning (AFT) is operating, however you can manually fine tune the TV to obtain a better picture reception in the case that the picture is distorted.
To do this: while watching the channel (TV Broadcast) you wish to fine tune, select the **AFT** option and press ▶. Next press ▼ or ▲ to adjust the fine tuning between -15 and +15. Finally press **OK** twice to store.

d) Skip any unwanted programme numbers when they are selected with the PROGR +/- buttons.
To do this: Highlighting the **Programme** option, press the **PROGR +/-** button to select the programme number you want to skip. When the programme you want to skip appears on the screen, select the **Skip** option and press ▶. Next press ▼ or ▲ to select **Yes**. Finally press **OK** twice to confirm and store.

To cancel this function afterwards, select "No" instead of "Yes" in the step above.

e) View and record correctly scrambled channels when using a decoder connected directly to the Scart ⇨2/⇦S or through a VCR.
This option is only available depending on the country you have selected in the "Language/

To cancel this function afterwards, select "Off" instead of "On" in the step above.

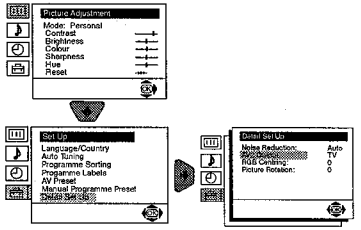


NOISE REDUCTION

The "Noise Reduction" option in the "Detail Set Up" menu allows you to automatically reduce the picture noise visible in the broasdcast signal.

To do this: after selecting the option, press ▶. Then press ▼ or ▲ to select **Auto**. Finally press **OK** to confirm and store.

To cancel this function afterwards, select "Off" instead of "Auto" in the step above.



AV2 OUTPUT

The "AV2 Output" option in the "Detail Set Up" menu allows you to select the source to be output from the Scart connector ⇨2/⇦S in order you can record from this Scart any signal coming from the TV or from external equipment connected to the Scart connector ⇨1/⇦ or front connectors ⇦3 and ⇦ 3.

If your VCR supports SmartLink, this procedure is not necessary.

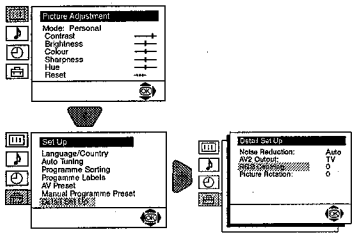
To do this: after selecting the option, press ▶. Then press ▼ or ▲ to select the desired output signal: **TV, AV1, AV3** or **AUTO**.

If you select "AUTO", the output signal will always be the same one that is displayed on the screen.

If you have connected a decoder to the Scart ⇨2/⇦S or to a VCR connected to this Scart, please remember to change back the "AV2 Output" to "AUTO" or "TV" for correct unscrambling.

continued...

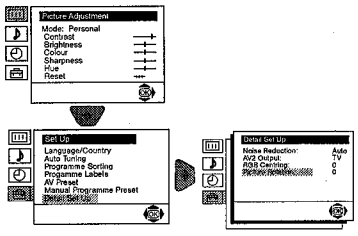
Level 1	Level 2	Level 3 / Function



RGB CENTRING

When connecting an RGB source, such as a "PlayStation", you may need to readjust the horizontal position of the picture. In that case, you can readjust it through the "RGB Centring" option in the "Detail Set Up".

To do this: while watching an RGB source select the "RGB Centring" option and press ➡. Then press ⬇ or ⬆ to adjust the centre of the picture between –10 and +10. Finally press **OK** to confirm and store.



PICTURE ROTATION

Because of the earth's magnetism, the picture may slant. In this case, you can correct the picture slant by using the option "Picture Rotation" in the "Detail Set Up" menu.

To do this: after selecting the option, press ➡. Then press ⬇ or ⬆ to correct any slant of the picture between -5 and +5 and finally press **OK** to store.

Teletext

Teletext is an information service transmitted by most TV stations. The index page of the teletext service (usually page 100) gives you information on how to use the service. To operate teletext, use the remote control buttons as indicated below.

Make sure to use a channel (TV Broadcast) with a strong signal, otherwise teletext errors may occur.

To Switch On Teletext :

After selecting the TV channel which carries the teletext service you wish to view, press ☰.

To Select a Teletext page:

Input 3 digits for the page number, using the numbered buttons.

- *If you have made a mistake, retype the correct page number.*
- *If the counter on the screen continues searching, it is because this page is not available. In that case, input another page number*

To access the next or preceding page:

Press **PROGR +** (▲) or **PROGR -** (▼).

To superimpose teletext on to the TV:

Whilst you are viewing teletext, press ☰. Press it again to cancel teletext mode.

To freeze a teletext page:

Some teletext pages have sub-pages which follow on automatically. To stop them, press ⏪/⏸. Press it again to cancel the freeze.

To reveal concealed information (e.g: answer to a quiz):

Press ⊕/?. Press it again to conceal the information.

To Switch Off Teletext:

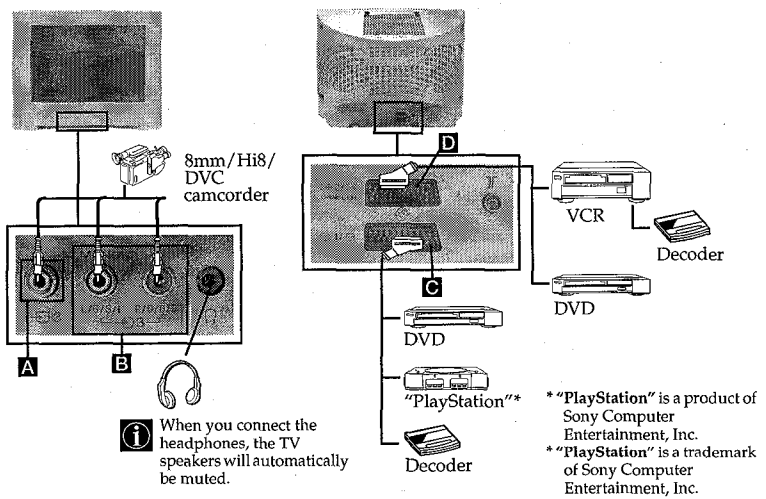
Press ▢.

Fastext

Fastext service lets you access pages with one button push.
While you are in Teletext mode and Fastext is broadcast, a colour coded menu appears at the bottom of the teletext page. Press the colour button (red, green, yellow or blue) to access the corresponding page.

Connecting Optional Equipment

Using the following instructions you can connect a wide range of optional equipment to your TV set. (Connecting cables are not supplied).



Connecting a VCR:

To connect a VCR, please refer to the section "Connecting the aerial and VCR" of this instruction manual. We recommend you connect your VCR using a scart lead. If you do not have a scart lead, tune in the VCR test signal to the TV programme number "0" by using the "Manual Programme Preset" option. (for details of how to manually programme these presets, see page 14, step a).
Refer to your VCR instruction manual to find out how to find the output channel of your VCR.

Connecting a VCR that supports SmartLink:

SmartLink is a direct link between the TV set and the VCR. For more information on SmartLink, please refer to the instruction manual of your VCR.
If you use a VCR that supports SmartLink, please connect the VCR by using a Scart lead to the Scart ⇨2/⇨S **D**.

If you have connected a decoder to the Scart ⇨2/⇨S or through a VCR connected to this Scart:

Select the "Manual Programme Preset" option in the "Set Up" menu and after entering in the "Decoder**" option, select "On" (by using ↓ or ↑). Repeat this option for each scrambling signal.

**This option is only available depending on the country you have selected in the "Language/Country" menu.

continued...

Using Optional Equipment

1 Connect your equipment to the designated TV socket, as indicated in the previous page.

2 Switch on the connected equipment.

3 To watch the picture of the connected equipment, press the ⇨ button repeatedly until the correct input symbol appears on the screen.

Symbol	Input Signals
⇨1	• Audio / video input signal through the Scart connector **C**.
⇨	• RGB input signal through the Scart connector **C**. This symbol appears only if a RGB source has been connected.
⇨2	• Audio / video input signal through the Scart connector **D**.
⇨S2	• S Video input signal through the Scart connector **D**.
⇨3	• Video input signal through the phono socket **A** and Audio input signal through **B**.

4 Press ▢ button on the remote control to return to the normal TV picture.

For Mono Equipment

Connect the phono plug to the L/G/S/I socket on the front of the TV and select ⇨3 input signal using the instructions above. Finally, refer to the "Sound Adjustment" section of this manual and select "Dual Sound" "A" on the sound menu screen (see page 11).

Specifications

TV system:
Depending on your country selection:
B/G/H, D/K

Colour system:
PAL, SECAM
NTSC 3.58, 4.43 (only Video In)

Channel Coverage:
VHF: E2-E12
UHF: E21-E69
CATV: S1-S20
HYPER: S21-S41
D/K: R1-R12, R21-R69

Picture Tube:
Flat Display FD Trinitron
29" (approx. 72 cm. measured diagonally)

Rear Terminals

1/	21-pin scart connector (CENELEC standard) including audio/video input, RGB input, TV audio/video output.
2/ (SMARTLINK)	21-pin Scart connector (CENELEC standard) including audio / video input, S video input, selectable audio / video output and SmartLink interface.

Front Terminals

3	video input – phono jack
3	audio input – phono jacks
	headphones jack

Sound Output:
2 x 10 W (music power)
2 x 5 W (RMS)

Power Consumption:
94 W

Standby Power Consumption:
0.5 W

Dimensions (w x h x d) :
Approx. 788 x 598 x 523 mm.

Weight:
Approx. 45.8 Kg.

Accessories supplied:
1 Remote Control (RM-946)
2 Batteries (IEC designated)

Other features:
- Teletext, Fastext, TOPtext
- Sleep Timer
- SmartLink (direct link between your TV set and a compatible VCR. For more information on SmartLink, please refer to the Instruction Manual of your VCR).
- TV system Autodetection.

Design and specifications are subject to change without notice.

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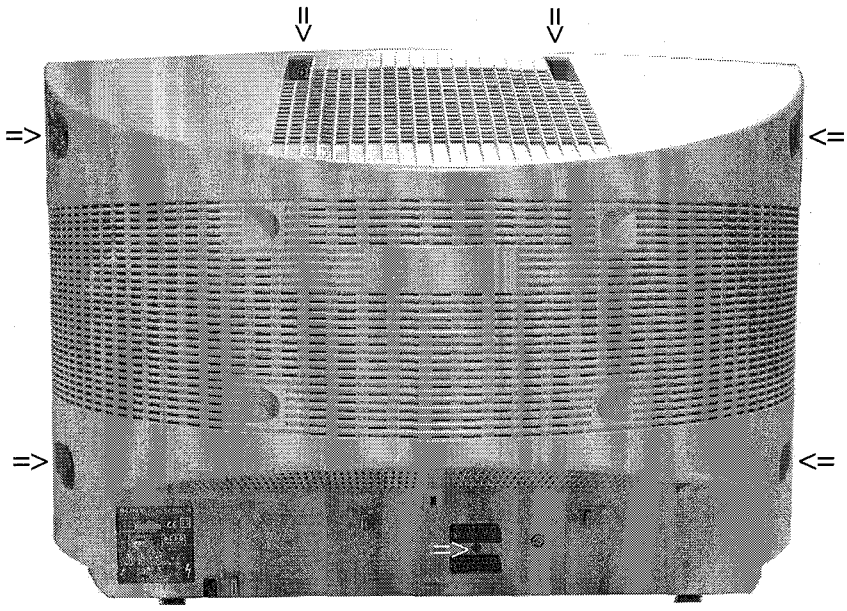
Troubleshooting

Here are some simple solutions to the problems which may affect the picture and sound.

Problem	Solution
No picture (screen is dark) and no sound.	• Check the aerial connection. • Plug the TV in and press the button on the front of the TV. • If the standby indicator is on, press I/ button on the remote control.
Poor or no picture (screen is dark), but good sound.	• Using the menu system, select the "Picture Adjustment" menu and select "Reset" to return to the factory settings (see page 10).
No picture or no menu information from equipment connected to the Scart connector.	• Check that the optional equipment is on and press the button repeatedly on the remote control until the correct input symbol is displayed on the screen (see page 19).
Good picture, no sound.	• Press the + button on the remote control. • Check that "TV Speakers" is "On" on the "Sound Adjustment" menu (see page 11). • Check that headphones are not connected.
No colour on colour programmes.	• Using the menu system, select the "Picture Adjustment" menu and select "Reset" to return to factory settings (see page 10).
Distorted picture when changing programmes or selecting teletext.	• Turn off any equipment connected to the Scart connector on the rear of the TV.
Wrong characters appear when viewing teletext.	• Using the menu system, enter to the "Language/ Country" (see page 12) menu and select the country in which you operate the TV set. For Cyrillic languages, we recommend selecting Russia country if your own country does not appear in the list.
Picture slanted	• Using the menu system, select the "Picture Rotation" option in the "Detail Set Up" menu to correct the picture slant (see page 16).
Noisy picture when viewing a TV channel.	• Using the menu system, select the "Manual Programme Preset" menu and adjust Fine Tuning (AFT) to obtain better picture reception (see page 14). • Using the menu system, select the "Noise Reduction" option in the "Detail Set Up" menu and select "Auto" to reduce the noise in the picture (see page 15).
No unscrambled picture whilst viewing un unscrambled channel with a decoder connected through the Scart connector 2/.	• Using the menu system, select the "Set Up" menu. Then enter to "Detail Set Up" option and set "AV2 Output" to "TV" (see page 15).
Remote control does not function.	• Replace the batteries.
The standby indicator on the TV flashes.	• Contact your nearest Sony service centre.

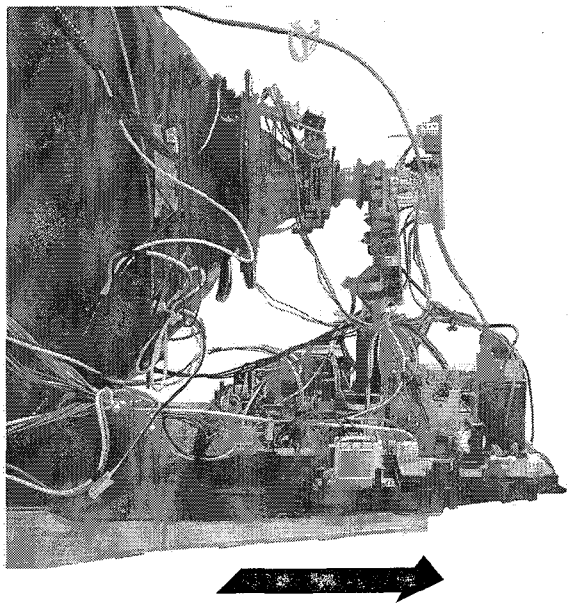
If you continue to experience problems, have your TV serviced by qualified personnel. Never open the casing yourself.

2-1. Rear Cover Removal

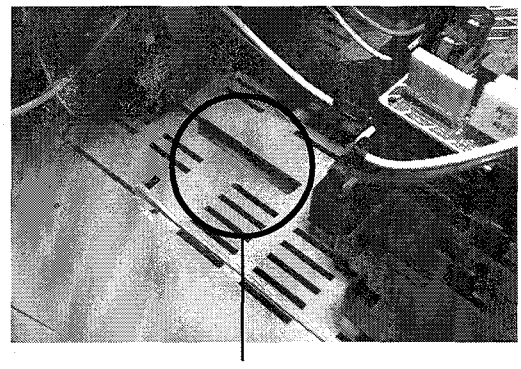


Remove the rear cover fixing screws indicated and withdraw the rear cover from the Beznet.

2-2. Chassis Removal and Refitting

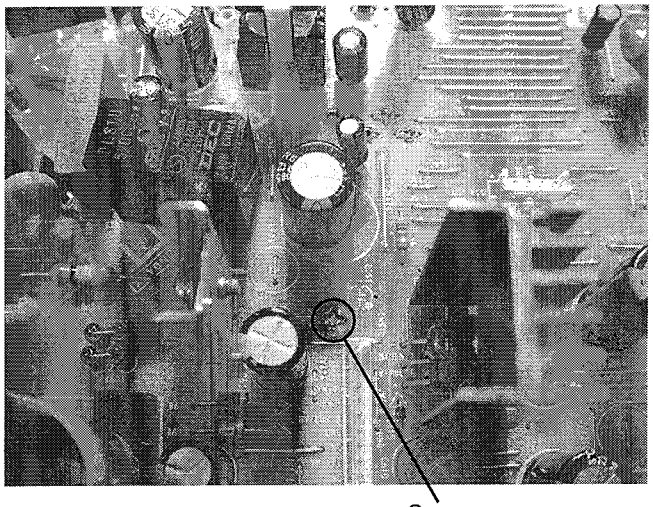


To remove lift the main bracket rear slightly and slide the chassis away from the beznet, whilst holding the beznet base down. Ensure that the interconnecting leads are released from their purse locks to prevent damage being caused.



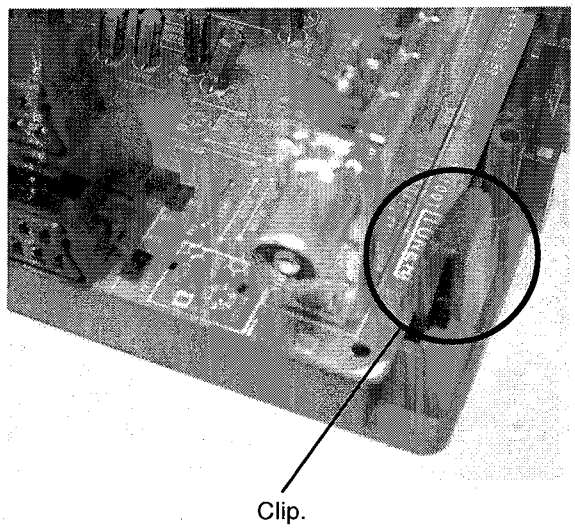
When refitting the chassis ensure that the main bracket is located in the beznet guide slots before sliding the chassis forwards. Refit the interconnecting leads in their respective purse locks.

2-3. A Board Removal [Step 1]



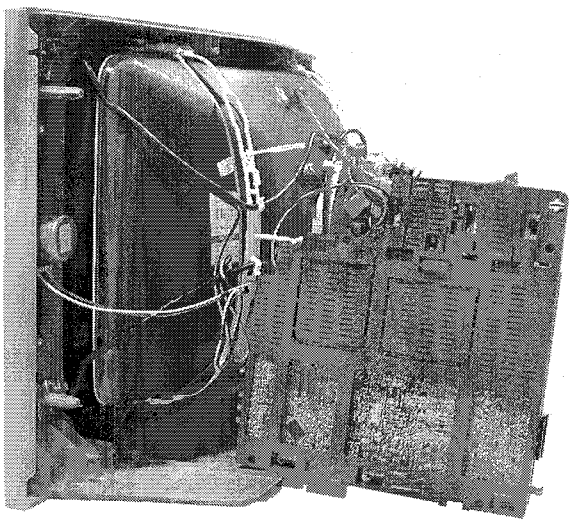
Remove the 3 screws securing the PWB to the main bracket. 1 can be seen in the photo above and the other 2 are either side of the FBT assembly.

2-4. A Board Removal [Step 2]



Release the 3 securing clips located at the side of the chassis and slide the PWB clear of the bracket.

2-5. Service Position

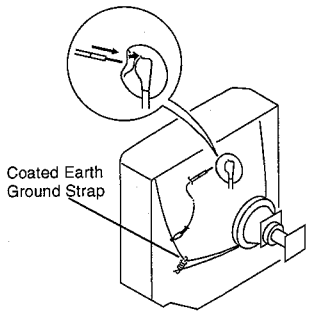


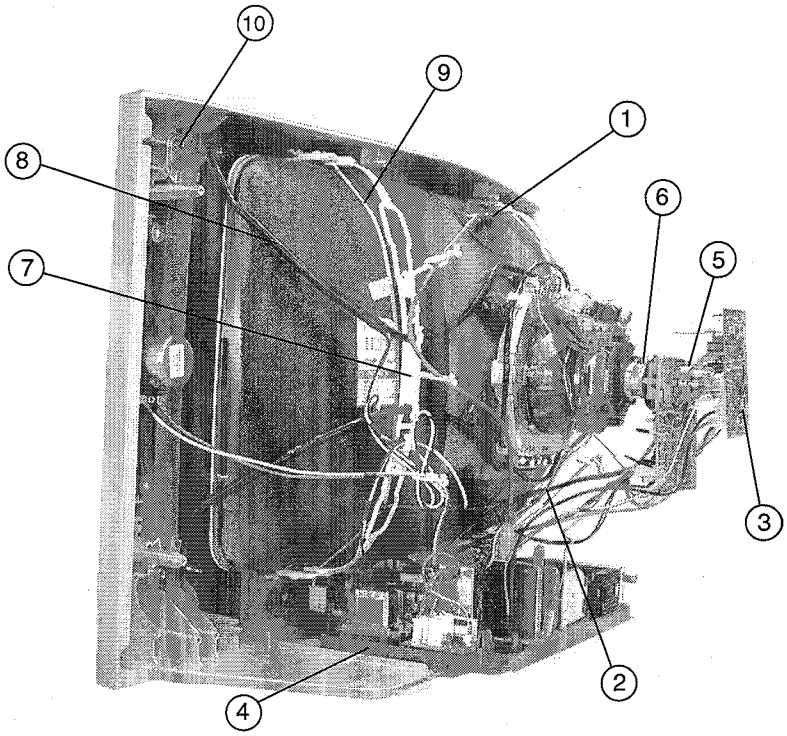
Position the chassis as indicated to access the solder side of the PWB's. To gain access to the A Board follow the instructions on page 16. [Removal and Replacement of the main bracket bottom plates].

2-6. Picture Tube Removal

WARNING:
BEFORE REMOVING
THE ANODE CAP

High voltage remains in the CRT even after the power is disconnected. To avoid electric shock, discharge CRT ***before*** attempting to remove the anode cap. Short between anode and CRT coated earth ground strap.

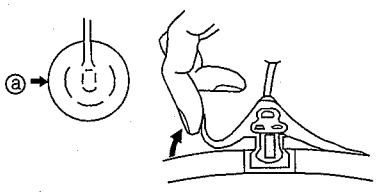




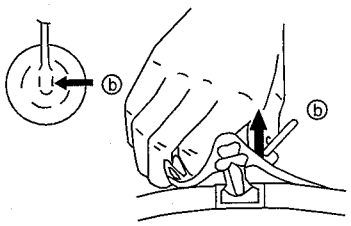
1. Discharge the anode of the CRT and remove the anode cap.
2. Unplug all interconnecting leads from the Deflection yoke, neck assy, degaussing coils and CRT grounding strap.
3. Remove the C Board from the CRT.
4. Remove the chassis assembly.
5. Loosen the Neck assembly fixing screw and remove.
6. Loosen the Deflection yoke fixing screw and remove.
7. Place the set with the CRT face down on a cushion and remove the Degaussing Coil holders.
8. Remove the Degaussing Coils.
9. Remove the CRT grounding strap and spring tentioners.
10. Unscrew the four CRT fixing screws [located on each CRT corner] and remove the CRT.
    [Take care not to handle the CRT by the neck.]

Removal of the Anode-Cap

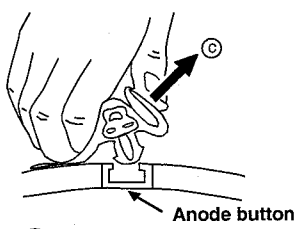
*** REMOVING PROCEDURES.**



① Turn up one side of the rubber cap in the direction indicated by the arrow ⓐ



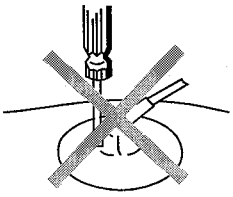
② Using a thumb pull up the rubber cap firmly in the direction indicated by the arrow ⓑ

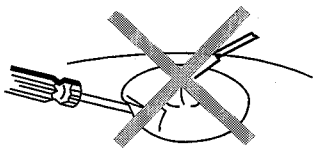


③ When one side of the rubber cap is separated from the anode button, the anode-cap can be removed by turning up the rubber cap and pulling it up in the direction of the arrow ⓒ

How to handle the Anode-Cap

1. To prevent damaging the surface of the anode-cap do not use sharp materials.
2. Do not apply too great a pressure on the rubber, as this may cause damage to the anode connector.
3. A metal fitting called a shatter hook terminal is fitted inside the rubber cap.
4. Do not turn the rubber foot over excessively, this may cause damage if the shatter hook sticks out.



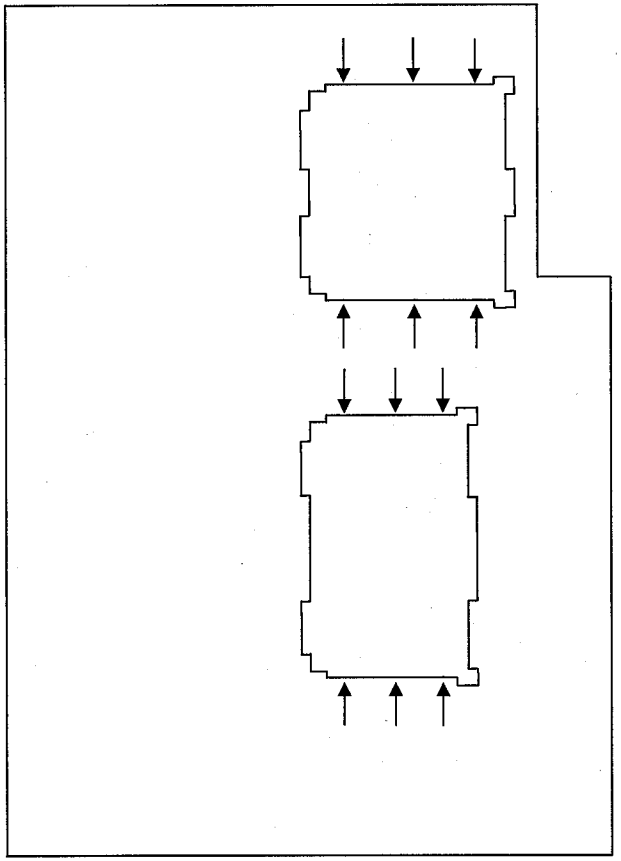


REMOVAL AND REPLACEMENT OF THE MAIN-BRACKET BOTTOM PLATES.

(1) REMOVING THE PLATES

In the event of servicing being required to the solder side of the A Board printed wiring board, the bottom plates fitted to the main chassis bracket require to be removed.
This is performed by cutting the gates with a sharp wire cutter at the locations indicated by the arrows.

Note : There are 2 plates fitted to the main bracket.
Only remove the necessary plate to gain access to the printed wiring board.

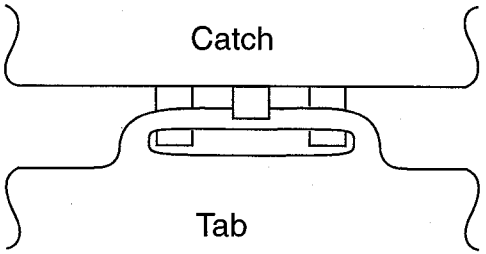


⚠ For safety reasons, on no account should the plates be removed and not refitted after servicing.

(2) REFITTING THE PLATES

Because the plates differ in size it is important that the correct plates are refitted in their original location.

Please note that the plates need to be rotated 180 degrees from their cut position to allow the tabs to be fitted into their catch positions.



SECTION 3 SET-UP ADJUSTMENTS

- When complete readjustment is necessary or a new picture tube is installed, carry out the following adjustments.
- Unless there are specific instructions to the contrary, carry out these adjustments with the rated power supply.
- Unless there are specific instructions to the contrary, set the controls and switches to the following settings :

Contrast ..... 80% [or remote control normal]

Brightness 50%

Carry out the adjustments in the following order :

3-1. Beam Landing.
3-2. Convergence.
3-3. Focus.
3-4. White Balance.

Note : Test equipment required.
1. Color bar/pattern generator.
2. Degausser.
3. Oscilloscope.
4. Digital multimeter.

Preparation:

1. In order to reduce the influence of geomagnetism on the set's picture tube, face it in an easterly or westerly direction.
2. Switch on the set's power and degauss with the degausser.

3-1. Beam Landing

1. Input an all white signal from the pattern generator. Set the Contrast and Brightness to normal.
2. Set the pattern generator raster signal to Red.
3. Move the deflection yoke forward and adjust with the purity control so that the Red is at the centre and the Blue and Green take up equally sized areas on each side of the screen. [See Fig.3-1 - 3-3].
4. Move the deflection yoke backwards and adjust so that the entire screen becomes Red. [See Fig.3-1]
5. Switch the raster signal to Blue, then to Green and verify the condition.
6. When the position of the deflection yoke has been determined, fasten the deflection yoke with the screws.
7. If the beam does not land correctly in all the corners, use a magnet to correct it. [See Fig.3-4]

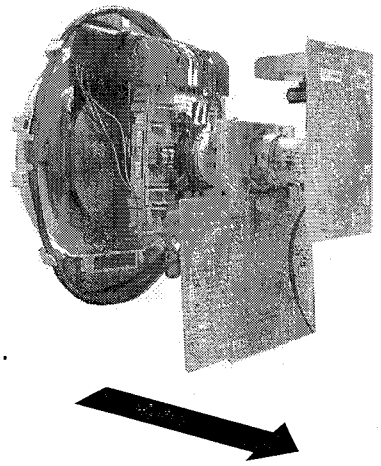


Fig. 3-1.

Caution :

High voltages are present on the Deflection yoke terminals - take care when handling the Deflection yoke whilst carrying out adjustments.

Fig. 3-2.

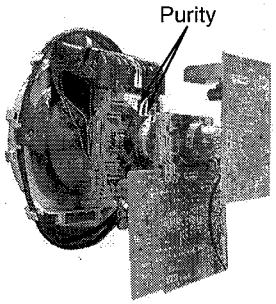
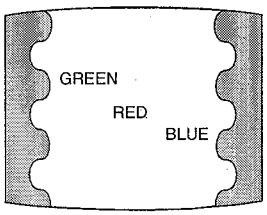


Fig. 3-3.



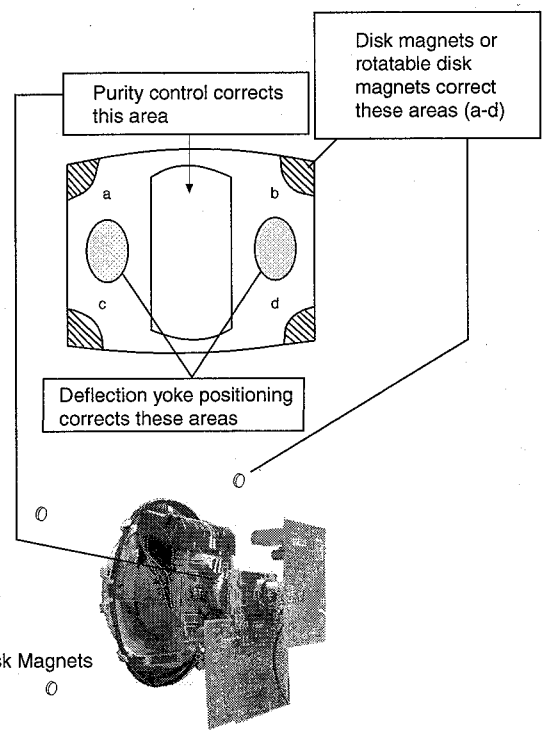


Fig.3-4

3-2. Convergence

Preparation:

- Before starting this adjustment, adjust the focus, horizontal size and vertical size.
- Minimize the Brightness setting.
- Input a dot pattern from the pattern generator.

Horizontal and Vertical Static Convergence

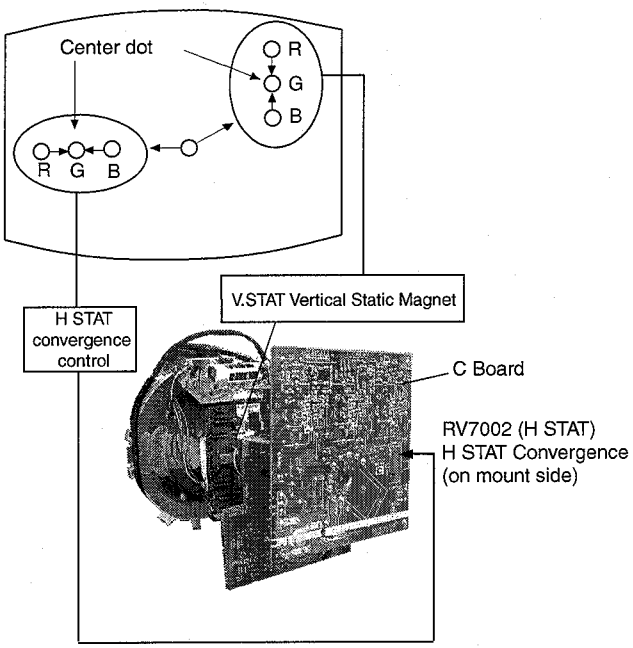
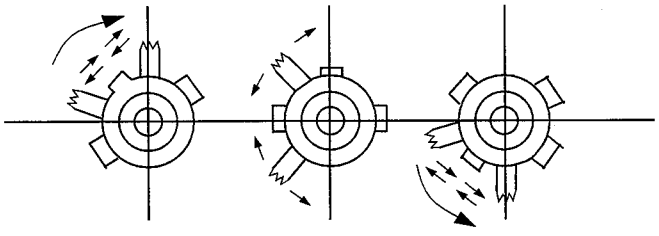


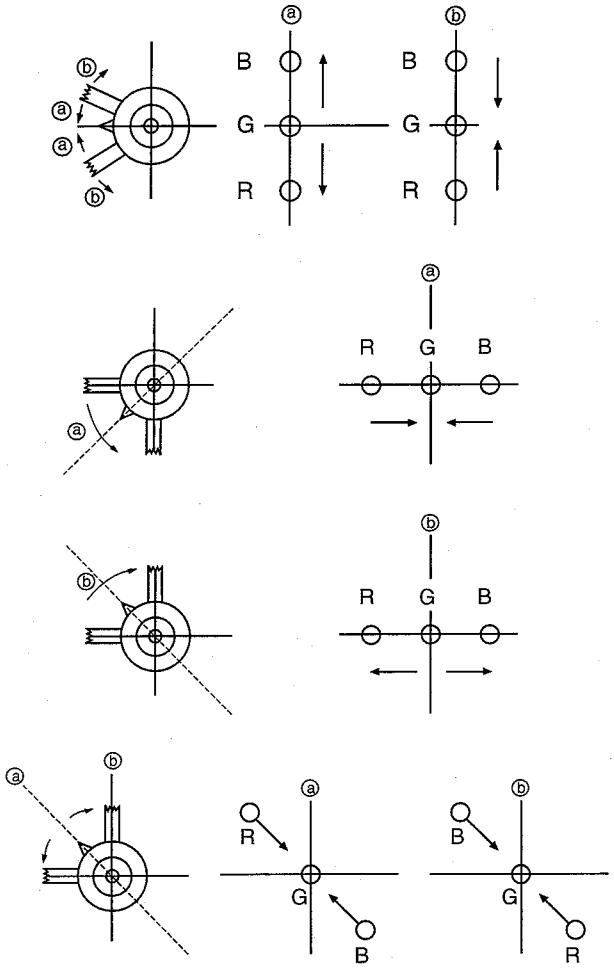
Fig.3-5

1. [Moving horizontally], adjust the H.STAT control so that the Red, Green and Blue points are on top of each other at the centre of the screen.
2. [Moving vertically], adjust the V.STAT magnet so that the Red, Green and Blue points are on top of each other at the centre of the screen.
3. If the H.STAT variable resistor is unable to bring the Red, Green and Blue points together at the centre of the screen, adjust the horizontal convergence with the H.STAT variable resistor and the V.STAT magnet in the manner indicated below.
   [In this case, the H.STAT variable resistor and the V.STAT magnet influence each other].

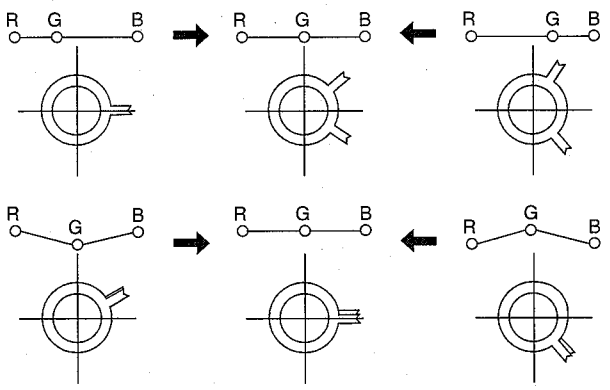
   - Tilt the V.STAT magnet and adjust the static convergence by opening or closing the V.STAT magnet.



4. If the V.STAT magnet is moved in the direction of the (a) and (b) arrows, the Red, Green and Blue points move as indicated below.



Operation of the BMC (Hexapole) magnet.



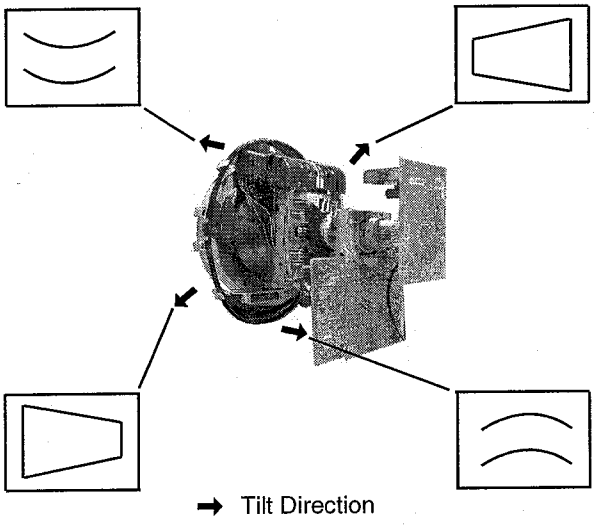
The movement of the magnets interact with each other and so the respective dot position should be monitored while carrying out this adjustment.
Use the H.STAT VR to adjust the Red, Green and Blue dots so that they coincide at the centre of the screen
(by moving the dots in the horizontal direction).

Geometry Adjustment.

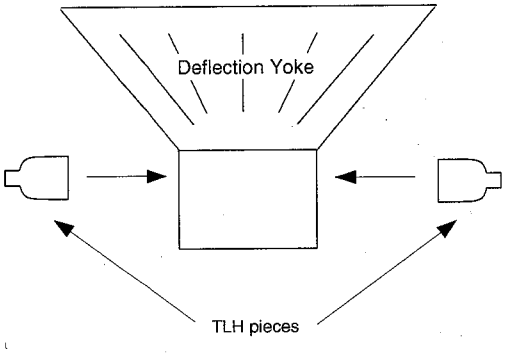
Preparation:

Before starting this adjustment, adjust the horizontal and vertical static convergence.

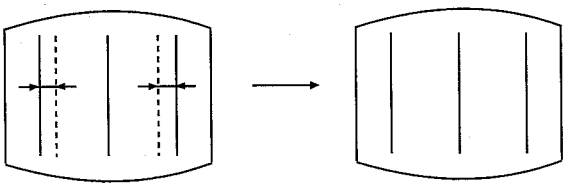
1. Remove the deflection yoke spacer.
2. Tilt the deflection yoke as indicated in the figure below and optimise the geometry.
   Tilting the DY Up and Down will balance the upper and lower pin adjustment.
   Tilting the DY Left and Right will balance the H-Trap adjustment.
3. Re-install the deflection yoke spacer.



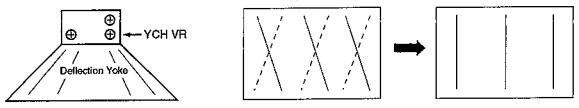
HTIL Adjustment



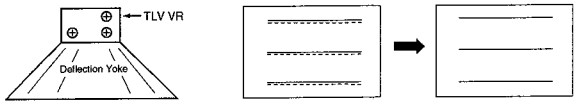
HTIL correction can be performed by adding a TLH correction assembly to the Deflection yoke.



YCH Adjustment

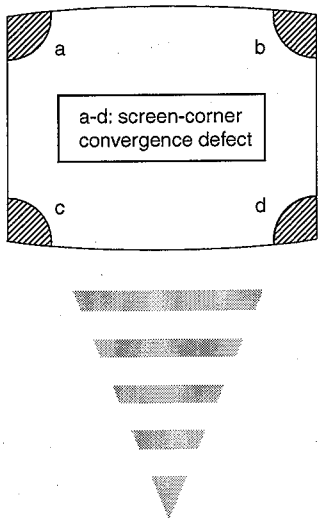


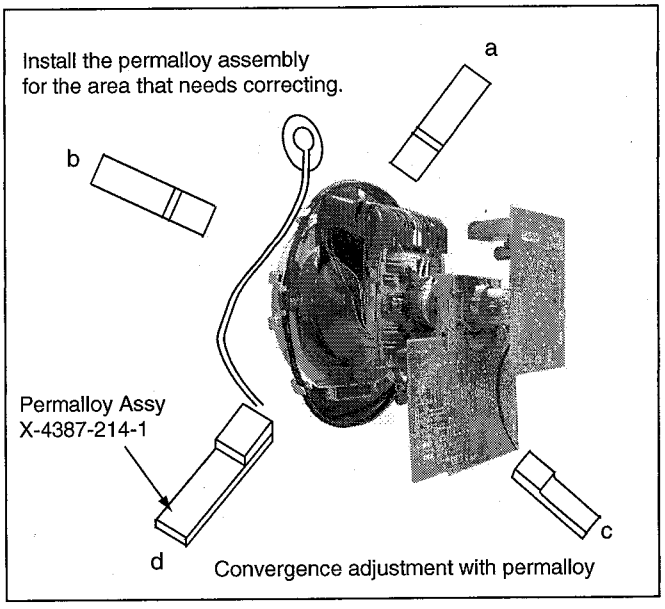
TLV Adjustment



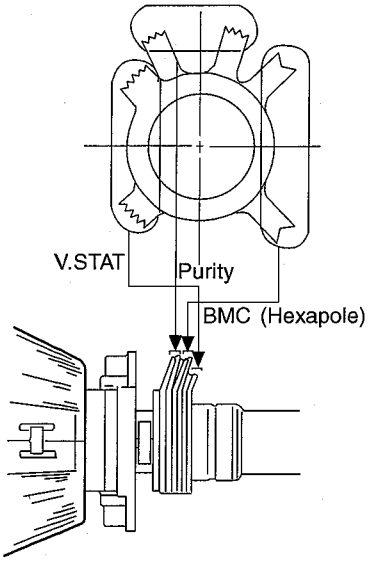
Screen Corner Convergence

If you are unable to adjust the corner convergence properly, this can be corrected with the use of permalloy magnets.



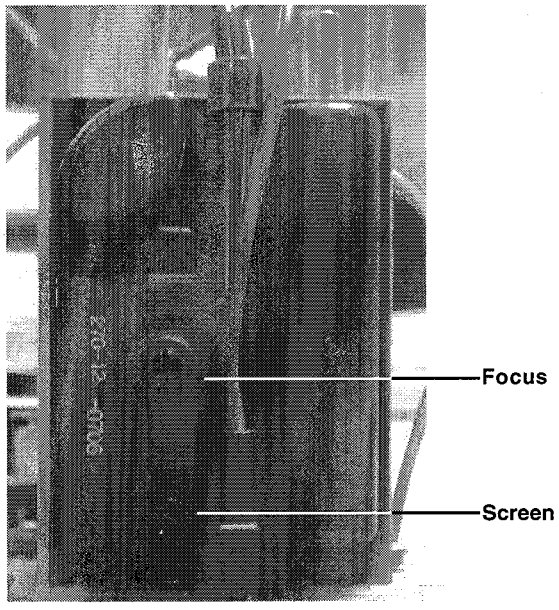


Layout of each control



3-3. Focus Adjustment

1. Receive a television broadcast signal.
2. Normalize the picture setting.
3. Adjust the focus control located on the flyback transformer to obtain the best focus at the centre of the screen.
   Bring only the centre area of the screen into focus, the magenta-ring appears on the screen. In this case, adjust the focus to optimize the screen uniformly.



3-4. Screen (G2), White Balance

[Adjustment in the service mode using the remote commander]

G2 adjustment

1. Input a dot signal from the pattern generator.
2. Enter the 'Service Mode' by pressing 'TEST', 'TEST' and '38' (TT-38) on the remote commander, to set up the G2 service adjustment mode.
3. Whilst watching the picture, adjust the G2 control [SCREEN] located on the Flyback Transformer to the point where the OSD menu indication shows "OK".

White balance adjustment for TV mode

1. Input an all-white signal from the pattern generator.
2. Enter into the 'Service Mode' by pressing 'TEST', 'TEST' and 'MENU' on the Service Commander.
3. Select 'Service' from the on screen menu display and press the right arrow button on the remote commander.
4. The 'Service' menu will appear on the screen.
   [See Page 21]
5. Set the 'Contrast' to MAX.
6. Set the 'R-Drive' to 25.
7. Adjust the 'G-Drive' and the 'B-Drive' so that the white balance becomes optimum.
8. Press the 'OK' button to write the data for each item.
9. Set the 'Contrast' to MIN.
10. Adjust the 'G-Cutoff', and the 'R-Cutoff' with the left and right buttons on the remote commander so that the white balance becomes optimum.
11. Press the 'OK' button to write the data for each item.

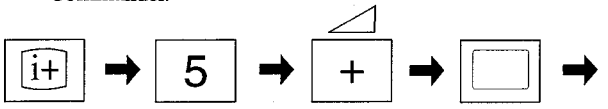
SECTION 4 CIRCUIT ADJUSTMENTS

4-1. Electrical Adjustments

Service adjustments to this model can be performed using the supplied remote Commander RM-946.

How to enter into the Service Mode

1. Turn on the main power switch and enter into the stand-by mode.
2. Press the following sequence of buttons on the Remote Commander.



'TT—' will appear in the upper right corner of the screen. Other status information will also be displayed.

3. Press 'MENU' on the remote commander to obtain the following menu on the screen.

Geometry
Service
Design
Status
Sound
IF adjust
Error Menu
FE-2 Stereo v3.44
Factory data 00h FFh
MSP Device : MSP3410G

4. Move to the corresponding adjustment item using the up or down arrow buttons on the Remote Commander.
5. Press the right arrow button to enter into the required menu item.
6. Press the 'Menu' button on the Remote Commander to quit the Service Mode when all adjustments have been completed.

Note :

- After carrying out the service adjustments, to prevent the customer accessing the 'Service Menu' switch the TV set OFF and then ON.

ERROR MENU			
E02	OCP	(0, 255)	0
E03	OVP N/A	(0, 255)	0
E04	VSYNC	(0, 255)	0
E05	IKR	(0, 255)	0
E06	IIC	(0, 255)	0
E07	NVM	(0, 255)	0
E08	JUNGLE	(0, 255)	0
E09	TUNER	(0, 255)	0
E10	SOUNDP	(0, 255)	0
E11	8V	(0, 255)	0
WORKING TIME			
HOURS			2
MINUTES			11

SERVICE		
Offset-R	(0, 63)	Adj
Offset-G	(0, 63)	Adj
R-Drive	(0, 63)	31
G-Drive	(0, 63)	Adj
B-Drive	(0, 63)	Adj
Peak-Freq	(0, 3)	0
Luma-Delay	(0, 15)	8
SC0	(0, 3)	3
White-Peak	(0, 15)	15
Subcont	(0, 15)	8
Subright	(0, 63)	30
Subcol	(0, 63)	Adj
Subsharp	(0, 63)	25
Cutoff Br.	(0, 63)	31
Br OSD	(0, 15)	10
Br TXT	(0, 15)	7

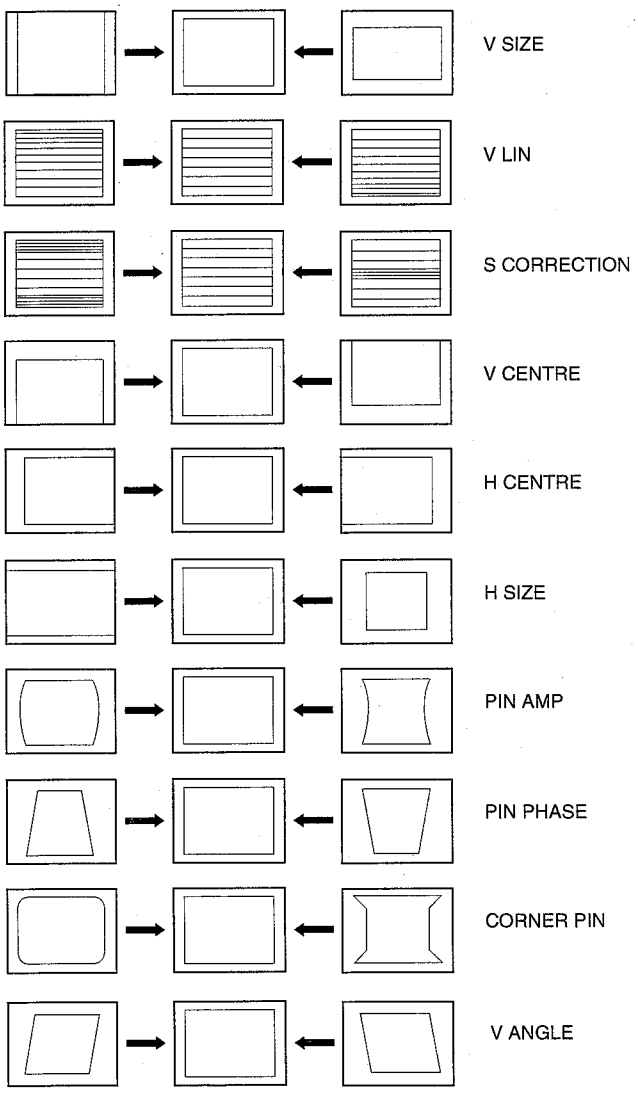
GEOMETRY		
V-Linearity	(0, 63)	Adj
V-Scroll	(0, 63)	32
Left-HBlk	(0, 15)	10
Right-HBlk	(0, 15)	7
V-Angle	(0, 63)	Adj
V-Bow	(0, 63)	Adj
H-Centre	(0, 63)	Adj
H-Size	(0, 63)	Adj
Pin-Amp	(0, 63)	Adj
U-Corner-Pin	(0, 63)	Adj
L-Corner-Pin	(0, 63)	Adj
Pin Phase	(0, 63)	Adj
V-Slope	(0, 63)	40
V-Size	(0, 63)	Adj
S-Correction	(0, 63)	Adj
V-Centre	(0, 63)	Adj
V-Zoom	(0, 63)	27
Magenta	(0, 63)	31

IF ADJUST		
AGC Adjust	(-16, +15)	+0
Automute		1
Audio Gain		0
L Gating		0

Deflection System Adjustment

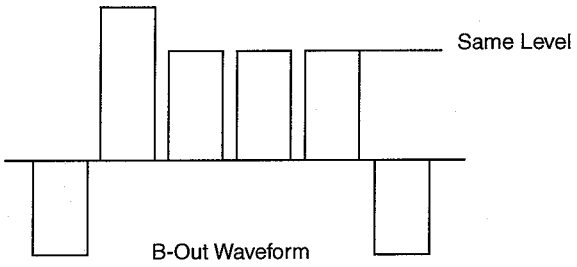
1. Enter into the 'Geometry' service menu.
2. Select and adjust each item in order to obtain the optimum image.

GEOMETRY		
V-Linearity	(0, 63)	Adj
V-Scroll	(0, 63)	32
Left-HBlk	(0, 15)	10
Right-HBlk	(0, 15)	7
V-Angle	(0, 63)	Adj
V-Bow	(0, 63)	Adj
H-Centre	(0, 63)	Adj
H-Size	(0, 63)	Adj
Pin-Amp	(0, 63)	Adj
U-Corner-Pin	(0, 63)	Adj
L-Corner-Pin	(0, 63)	Adj
Pin Phase	(0, 63)	Adj
V-Slope	(0, 63)	40
V-Size	(0, 63)	Adj
S-Correction	(0, 63)	Adj
V-Centre	(0, 63)	Adj
V-Zoom	(0, 63)	27
Magenta	(0, 63)	31



Sub Colour Adjustment

1. Receive a PAL colour bar signal.
2. Connect an oscilloscope to Pin 5 of CN3003 [A Board].
3. Enter into the 'Service' service menu.
4. Adjust the 'Sub Colour' data so that the Cyan, Magenta and Blue colour bars are of equal levels as indicated below.



Sub Brightness Adjustment

1. Input a Monoscope pattern.
2. Press 'TEST' 'TEST' 13 on the Remote Commander.
3. Adjust the 'Sub-Brightness' data so that there is barely a difference between the 0 IRE and 10 IRE signal levels.

Sub Contrast Adjustment

1. Input a video signal that contains a small 100% white area on a black background.
2. Connect an digital voltmeter to Pin 10 of J7001 [C Board].
3. Adjust the Sub-Contrast ['TT11'] to obtain a voltage of 105 +/- 5V.

4-2. TEST MODE 1:

Test Mode 1 is available by pressing the 'TEST' button once, OSD 'T' appears. The functions described below are available by selecting the indicated keys. The 'T' is released automatically after each command is executed.

KEY	T-MODE FUNCTION
volume +	volume maximum
volume -	Picture minimum
picture +	Picture maximum
picture -	Picture minimum
colour up	colour maximum
colour down	colour minimum
brightness - bright	brightness maximum
brightness - dark	brightness minimum
hue - purplish	hue - purplish
hue - greenish	hue - greenish
sharpness - sharp	sharpness maximum
sharpness - soft	sharpness minimum
balance left	balance full left
balance right	balance full right
treble up	treble maximum
treble down	treble minimum
bass up	bass maximum
bass down	bass minimum

4-3. TEST MODE 2:

Test Mode 2 is available in Service Mode, OSD 'TT' appears. The functions described below are available by selecting the two numbers. To release 'Test mode 2', press 00 or switch the TV set into Stand-by mode.

00	'TT' mode off
01	Picture maximum
02	Picture minimum
03	Set speaker/headphone Volume to 35%
04	Set speaker/headphone Volume to 50%
05	Set speaker/headphone Volume to 65%
06	Set speaker/headphone Volume to 80%
07	Ageing mode
08	Shipping Condition
11	Sub picture adjustment
12	Sub colour adjustment
13	Sub Brightness adjustment
14	Text H Position adjustment
15	Rotation Coil Test
16	Picture level 50%
19	Factory Mode Enable/Disable
21	Destination ADEKR
22	Destination BL
23	Destination ADEKR
24	Destination U
25	Destination ADEKR
26	Destination BL
27	Destination ADEKR
28	Destination ADEKR
31	Auto Shutoff Enable/Disable
33	Rotation ON/OFF
35	Toggle Wide Mode
36	Velocity Modulation (VM) OFF/ON test
38	G2 adjustment
39	AVC release timing delay enable/disable
41	Re-initialise NVM
43	Select Dual A sound
44	Select Dual B sound
45	Select Mono sound
46	Select Stereo sound
48	Set NVM as non virgin
49	Set NVM as virgin
51	Virtual Dolby on/off
52	Subwoofer / MPB (Bass enhancement) Enable
53	FM over-modulation enable/disable
54	Dot structure C/M (chroma trap)
55	Tuner selection (SONY/ALPS)
56	BBE enable/disable
57	BBE menu line enable/disable
58	Dolby-BBE combination (BBE is Off when Dolby is On, and vice versa)
59	Line 318 disappear problem C/M enable/disable
61	Auto AGC Adjustment
62	AM from baseband enable/disable
63	Enable/Disable YC3 connector
64	Enable/Disable RGB priority
65	RGB auto-detect enable/disable
66	On timer enable/disable
67	Manual AGC Adjustment
68	Enable/Disable X26 countermeasure (N problem)
69	Enable/Disable ACI feature. -> deleted
71	Force PAL video
72	Un-force PAL (restore normal video condition)
73	Enable Zweiton D/K2 system (6.5/6.74)
74	Enable Zweiton D/K3 system (6.5/5.74)
75	MSP error detection method
78	Balance full left
79	Balance full right
87	Local keys test
89	Enable/Disable watchdog
91	Set 14:9 zoom mode
92	Set SMART zoom mode
93	Set 16:9 zoom mode
94	Set ZOOM mode
95	Set 4:3 zoom mode
99	Display Error and Working Time menu

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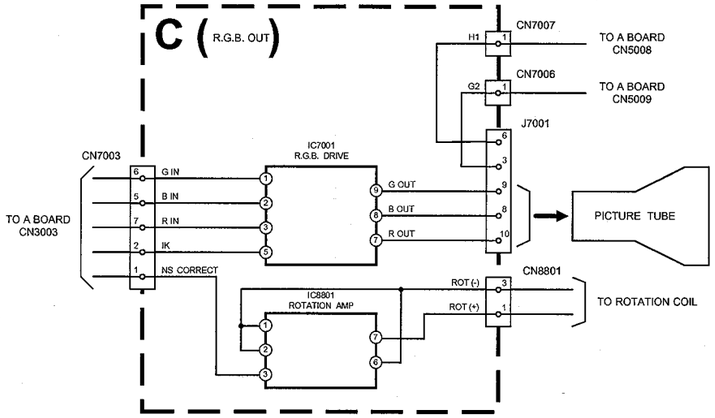
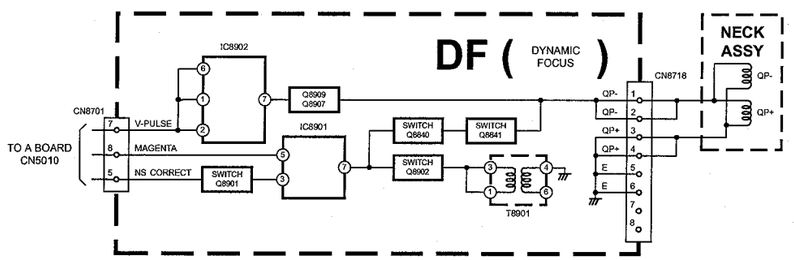
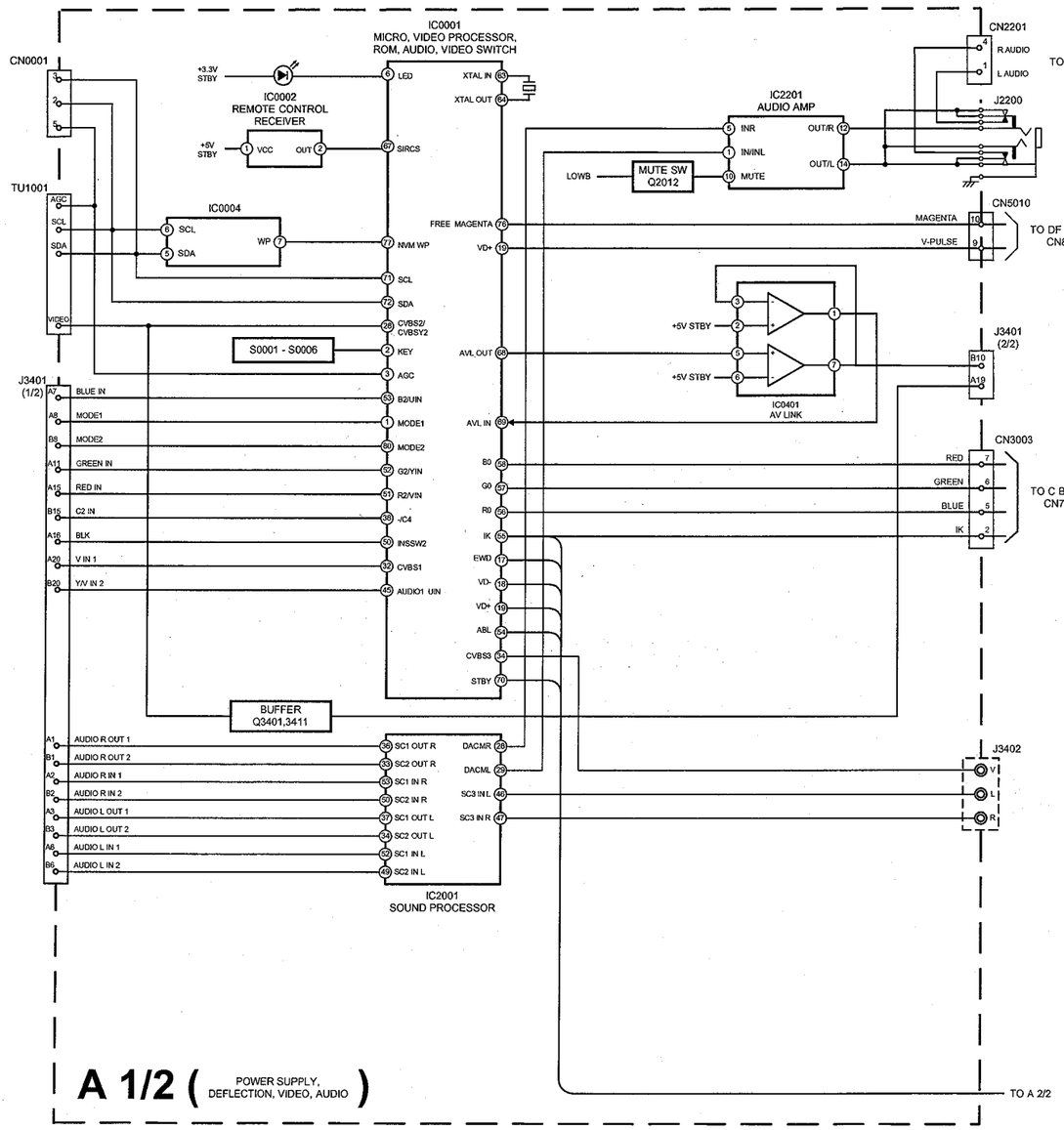
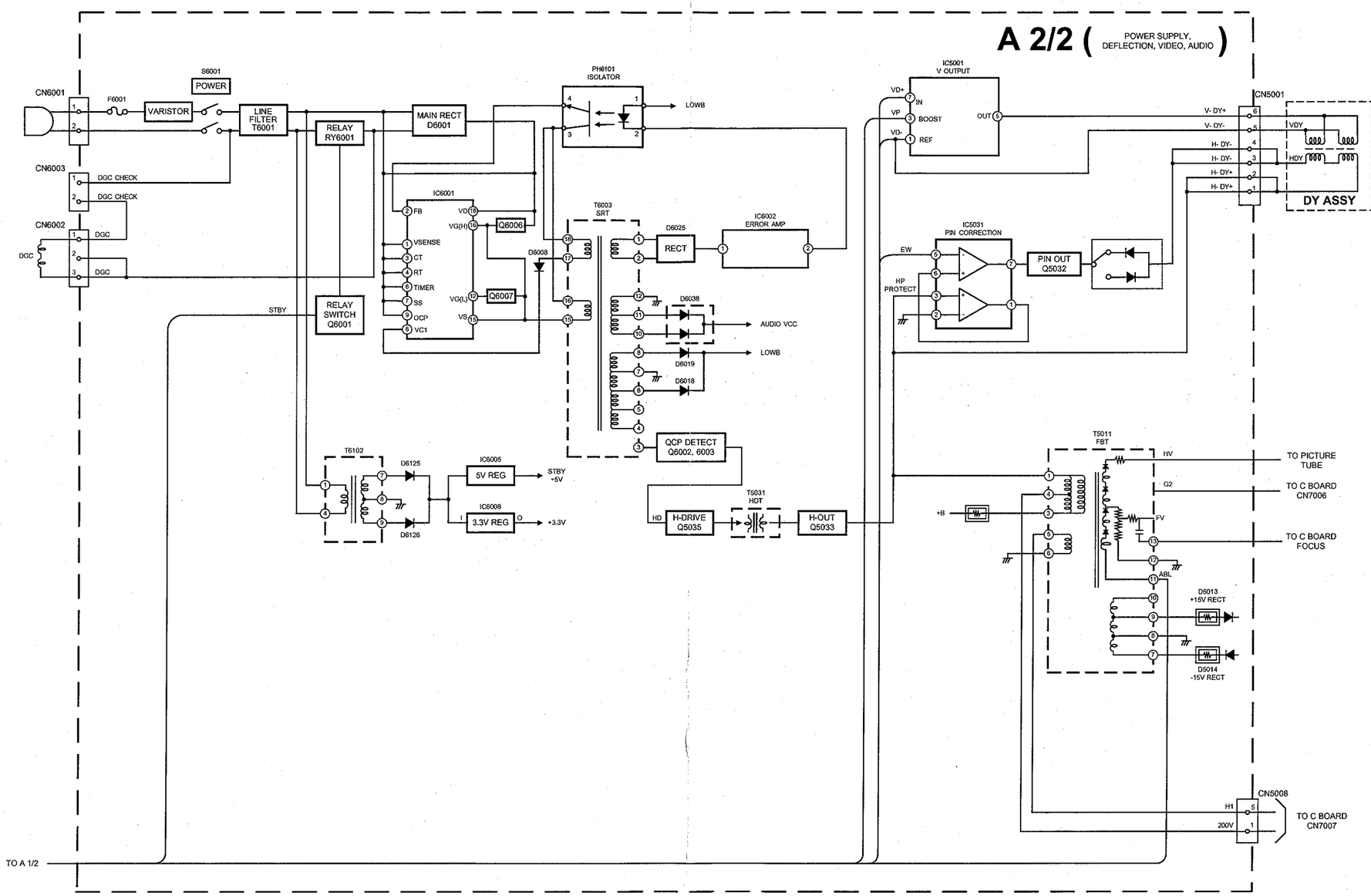
5-1. BLOCK DIAGRAMS (1)



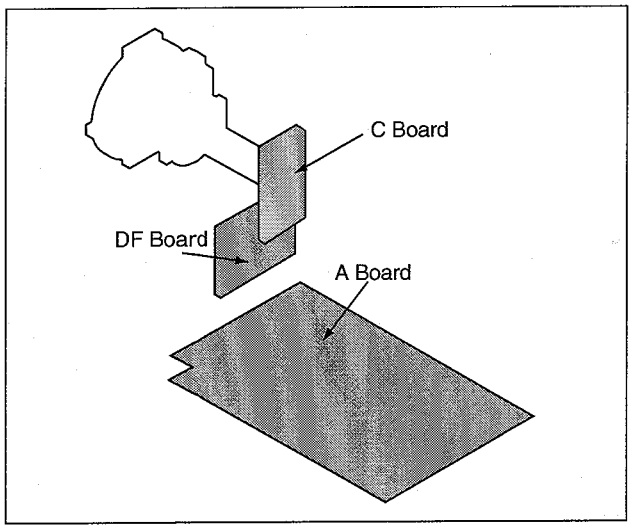




5-1. BLOCK DIAGRAMS (2)



5-2. CIRCUIT BOARD LOCATION



5-3. SCHEMATIC DIAGRAMS AND PRINTED WIRING BOARDS

Note :

- All capacitors are in μF unless otherwise noted.
- pF : μμF 50WV or less are not indicated except for electrolytic types.
- Indication of resistance, which does not have one for rating electrical power, is as follows.

Pitch : 5mm
Electrical power rating : 1/4W

- Chip resistors are 1/10W
- All resistors are in ohms.
  k = 1000 ohms, M = 1000,000 ohms
- : nonflammable resistor.
- : fusible resistor.
- : internal component.
- : panel designation or adjustment for repair.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- All voltages are in Volts.
- Readings are taken with a 10Mohm digital mutimeter.
- Readings are taken with a color bar input signal.
- Voltage variations may be noted due to normal production tolerences.
- : B + bus.
- : B - bus.
- : RF signal path.
- : earth - ground.
- : earth - chassis.

Reference Information

RESISTOR	RN	: METAL FILM
	RC	: SOLID
	FPRD	: NON FLAMMABLE CARBON
	FUSE	: NON FLAMMABLE FUSIBLE
	RS	: NON FLAMMABLE METAL OXIDE
	RB	: NON FLAMMABLE CEMENT
	RW	: NON FLAMMABLE WIREWOUND
	※	: ADJUSTMENT RESISTOR
COIL	LF-8L	: MICRO INDUCTOR
CAPACITOR	TA	: TANTALUM
	PS	: STYROL
	PP	: POLYPROPYLENE
	PT	: MYLAR
	MPS	: METALIZED POLYESTER
	MPP	: METALIZED POLYPROPYLENE
	ALB	: BIPOLAR
	ALT	: HIGH TEMPERATURE
	ALR	: HIGH RIPPLE

Note : The components identified by shading and marked ⚠ are critical for safety. Replace only with the part numbers specified in the parts list.

Note : Les composants identifiés par une trame et par une marque ⚠ sont d'une importance critique pour la sécurité. Ne les remplacer que par des pièces de numéro spécifié. specified.

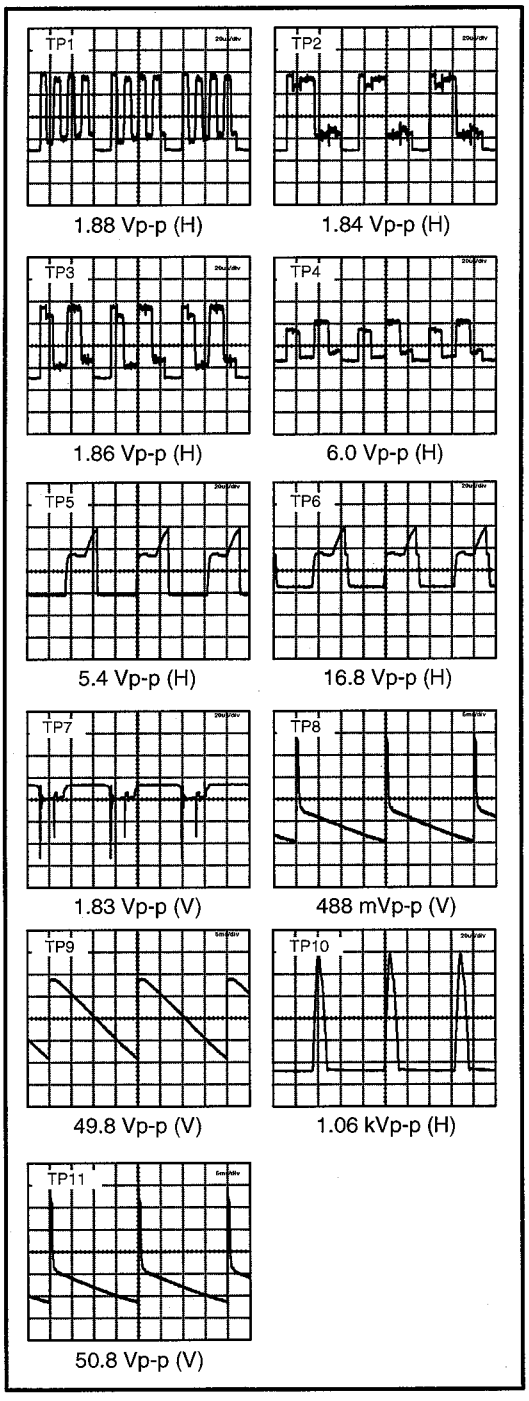
~ A Board Difference Table ~

Ref	KV-29CL10B	KV-29CL10E	KV-29CL10K	KV-29CL10U
TU1001	FRONT END BTF-EF411	FRONT END BTF-EC411	FRONT END BTF-EC411	FRONT END BTF-EU611

~ A Board IC Voltage Table~

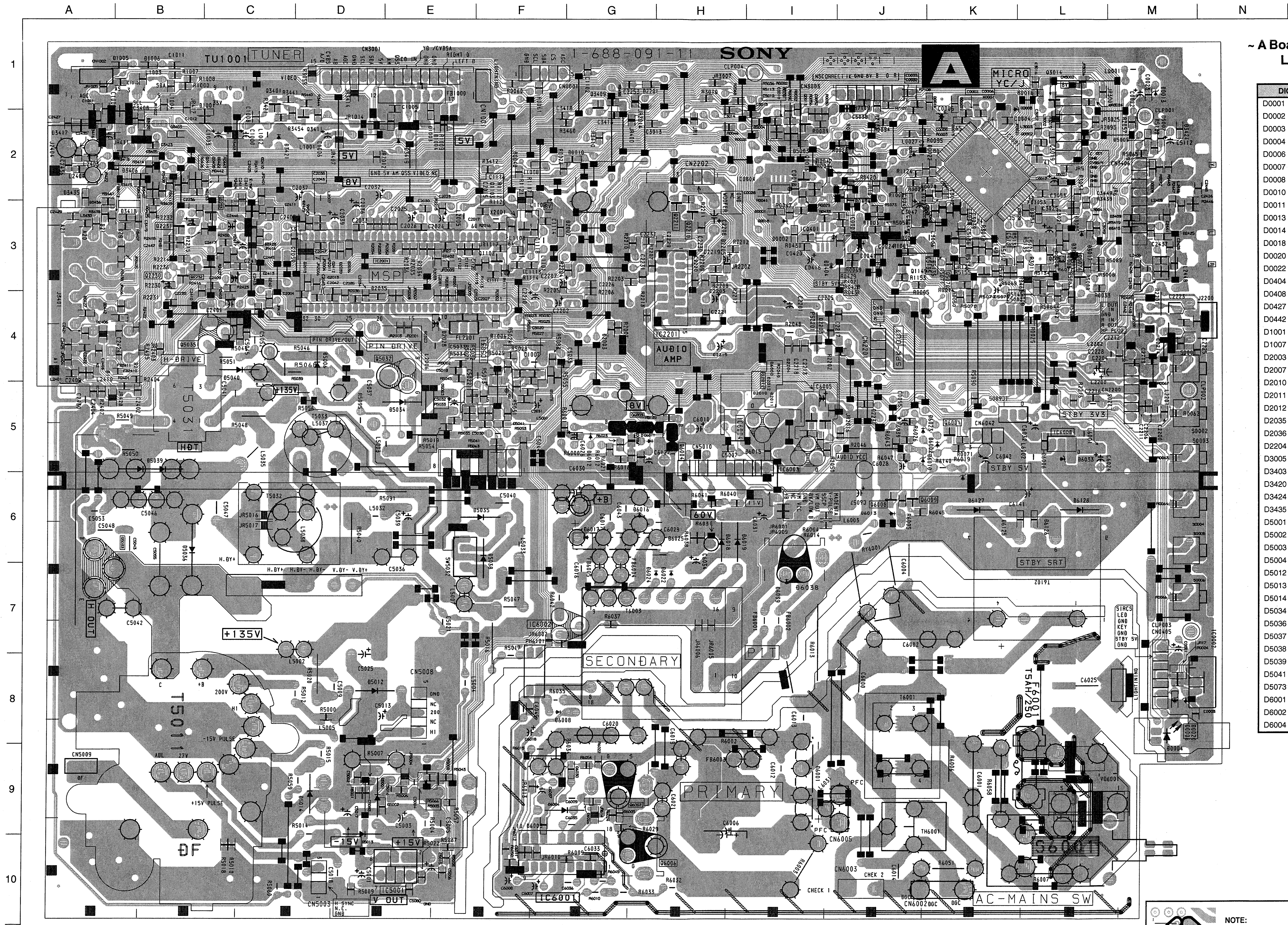
Ref No	Pin No	Voltage (V)	Ref No	Pin No	Voltage (V)
IC0001	1	0	IC0001	67	4.3
	2	3.2		68	5.0
	3	5.0		69	5.0
	5	0		70	0
	6	3.5		71	3.5
	8	0		72	3.8
	9	0		73	2.5
	10	2.3		74	0.9
	12	5.0		75	7.2
	13	2.6		76	3.4
	14	4.0		77	3.8
	16	4.0		78	3.2
	17	4.7		79	4.8
	18	1.1		80	0
	19	1.3	IC5001	1	0.4
	20	3.8		3	-11.8
	21	3.8		5	0.3
	22	0		6	13.5
	26	1.2		7	0.4
	28	3.5	IC5031	1	1.4
	29	7.9		2	1.9
	30	2.6		3	1.8
	31	7.9		5	3.6
	32	3.3		6	1.4
	34	3.3		7	7.1
	35	1.4	IC6001	1	-75.5
	36	0		2	-76.1
	38	1.4		3	-75.5
	40	1.8		4	-75.8
	42	7.4		5	-77.1
	43	7.4		6	-77.0
	45	2.4		7	-73.6
	46	2.8		9	-77.0
	47	2.8		10	-71.4
	48	2.4		11	-77.1
	49	2.4		12	-74.7
	50	0		14	4.1
	51	2.5		15	0
	52	2.5		16	0
	53	2.5		18	77.1
	54	2.8	IC2201	1	13
	55	3.8		3	0
	56	1.8		5	13.0
	57	1.8		6	0
	58	1.8		7	13.5
	59	3.2		9	0
	62	0		10	5.6
	63	1.7		12	13.5
	64	1.6		14	13.5
	65	0			

~ A Board Waveforms ~



~ A Board Semiconductor Voltage Table ~

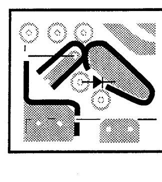
Ref	(e)	(b)	(c)	Ref	(e)	(b)	(c)
Q0013	0	0.4	3.1	Q6003	8	8	0
Q1102	4.0	3.3	8.0	Q6004	0	0	3.1
Q1103	4.0	4.6	8.0	Q6008	0	0	8.9
Q2012	0	0.6	0	Q6009	8.9	8.9	0
Q3401	4.9	4.3	2.2	Ref	(s)	(g)	(d)
Q3411	1.3	1.9	4.3	Q6006	0	0	75.6
Q6001	9.1	8.3	7.8	Q6007	-77.1	-74.7	0
Q6002	0	0.5	8	Q5035	0	3.0	82.1



~ A Printed Wiring Board Conductor side ~

~ A Board Semiconductor Location Table ~

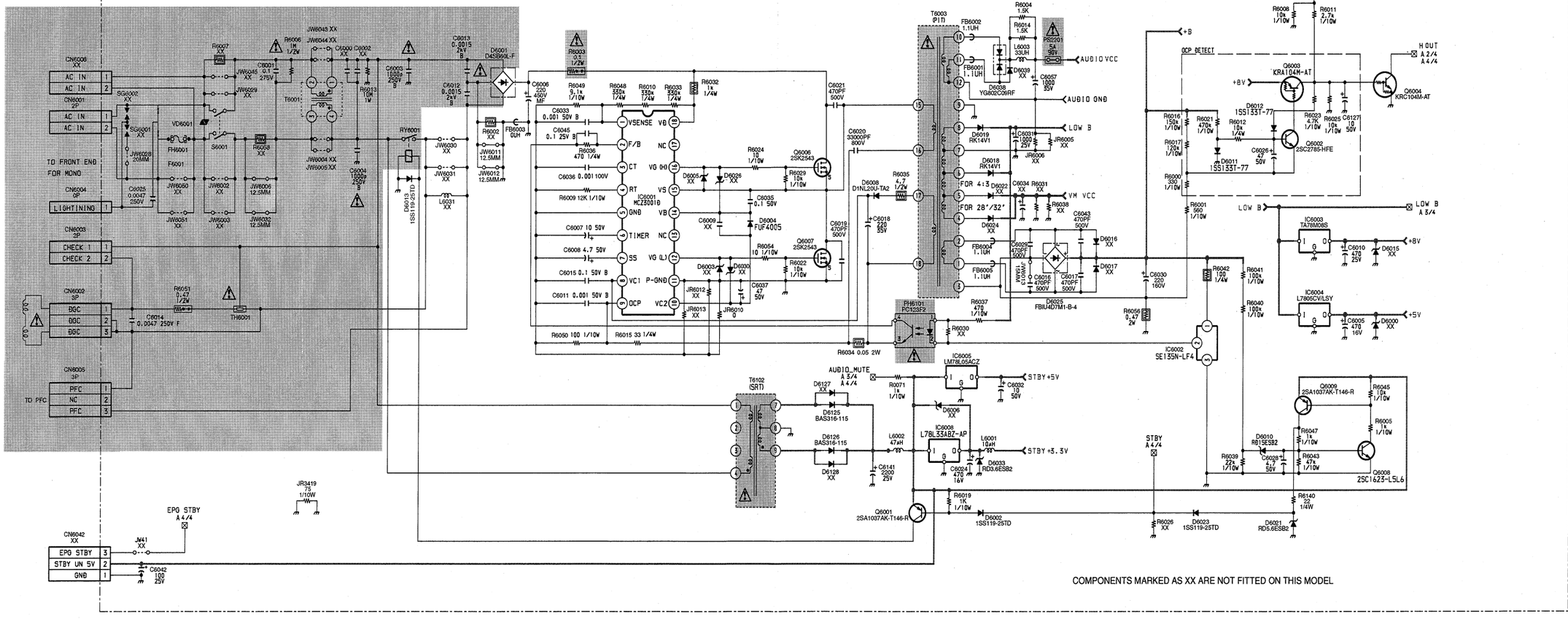
DIODE			
D0001	I - 2	D6008	F - 8
D0002	I - 3	D6010	J - 5
D0003	K - 2	D6011	G - 5
D0004	M - 8	D6012	G - 5
D0006	M - 8	D6013	J - 6
D0007	K - 1	D6018	H - 6
D0008	L - 3	D6019	H - 6
D0010	G- 2	D6021	K - 6
D0011	F - 2	D6023	J - 5
D0013	M - 1	D6025	K - 6
D0014	K - 1	D6033	L - 5
D0018	I - 3	D6038	I - 6
D0020	M - 8	D6125	K - 6
D0022	L - 2	D6126	L - 6
D0404	I - 3	**TRANSISTOR**	
D0408	B - 2	Q0013	I - 3
D0427	A - 4	Q1102	E - 3
D0442	B - 2	Q1103	F - 3
D1001	B - 1	Q1149	J - 3
D1007	A - 1	Q2012	I - 5
D2003	G - 4	Q3401	C - 1
D2007	F - 3	Q3409	G - 1
D2010	I - 5	Q3411	D - 2
D2011	I - 5	Q5032	D - 4
D2012	I - 5	Q5033	A - 6
D2035	D - 4	Q5035	B - 4
D2036	D - 3	Q5070	K - 3
D2204	I - 5	Q5076	L - 3
D3005	L - 3	Q6001	K - 5
D3403	B - 2	Q6002	G - 5
D3420	B - 2	Q6003	G - 5
D3424	M - 2	Q6004	H - 5
D3435	A - 2	Q6006	G - 10
D5001	D - 9	Q6007	G - 9
D5002	D - 9	Q6008	J - 6
D5003	I - 2	Q6009	J - 6
D5004	I - 2	**IC'S**	
D5012	D - 8	IC0001	K - 2
D5013	D - 9	IC0002	M - 8
D5014	D - 9	IC0004	H - 2
D5034	E - 5	IC0401	I - 3
D5036	B - 6	IC2001	E - 3
D5037	C - 4	IC2201	H - 4
D5038	E - 6	IC5001	E - 10
D5039	B - 5	IC5031	F - 4
D5041	F - 5	IC6001	F - 10
D5073	F - 5	IC6002	F - 7
D6001	I - 9	IC6003	I - 5
D6002	J - 5	IC6004	H - 5
D6004	F - 9	IC6005	K - 5
		IC6008	L - 5



NOTE:
Portions of the circuit marked as shown are high voltage areas. Use care to prevent electric shock during inspection or repair.

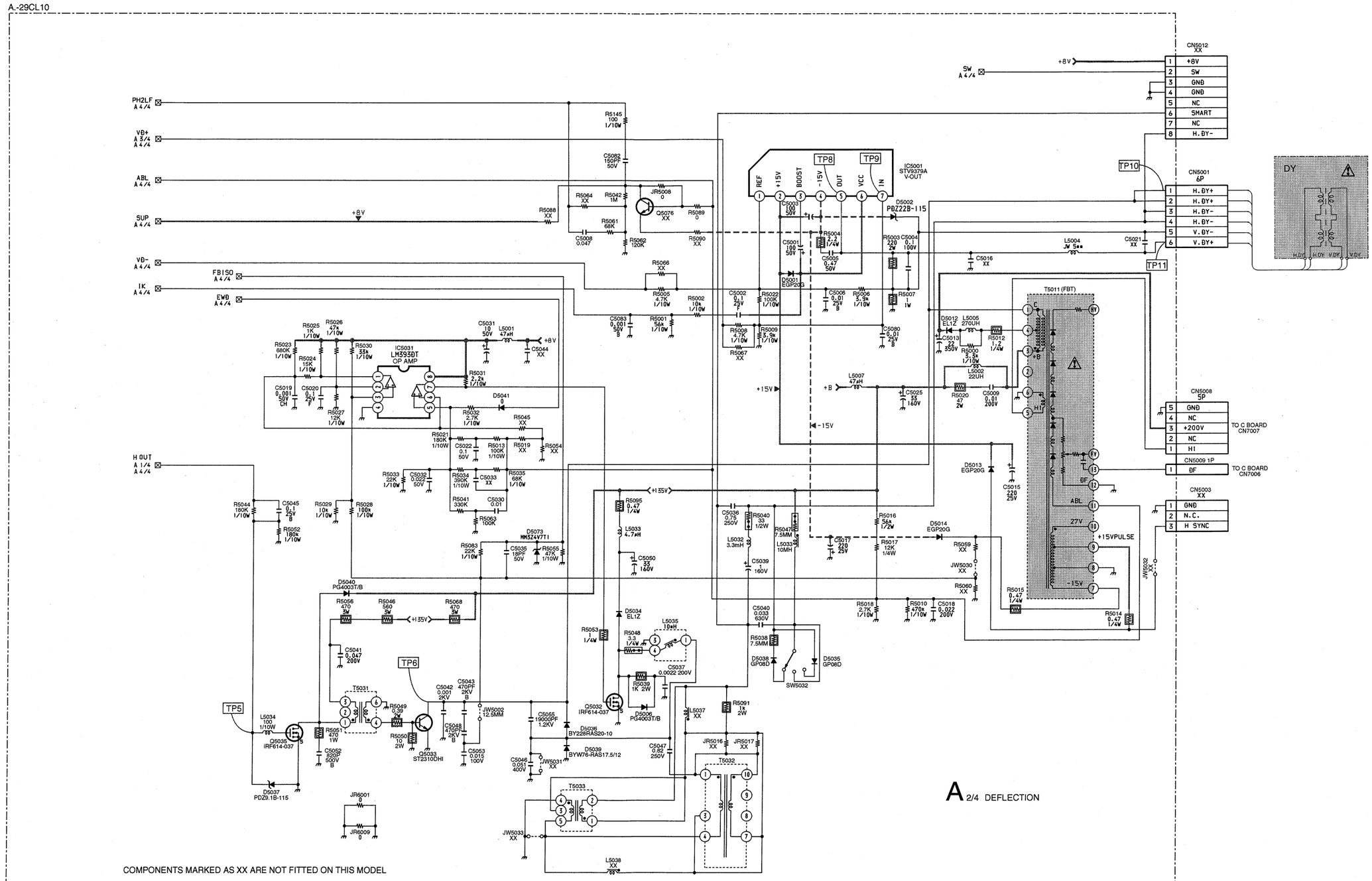
A.-29CL10

A 1/4 POWER SUPPLY

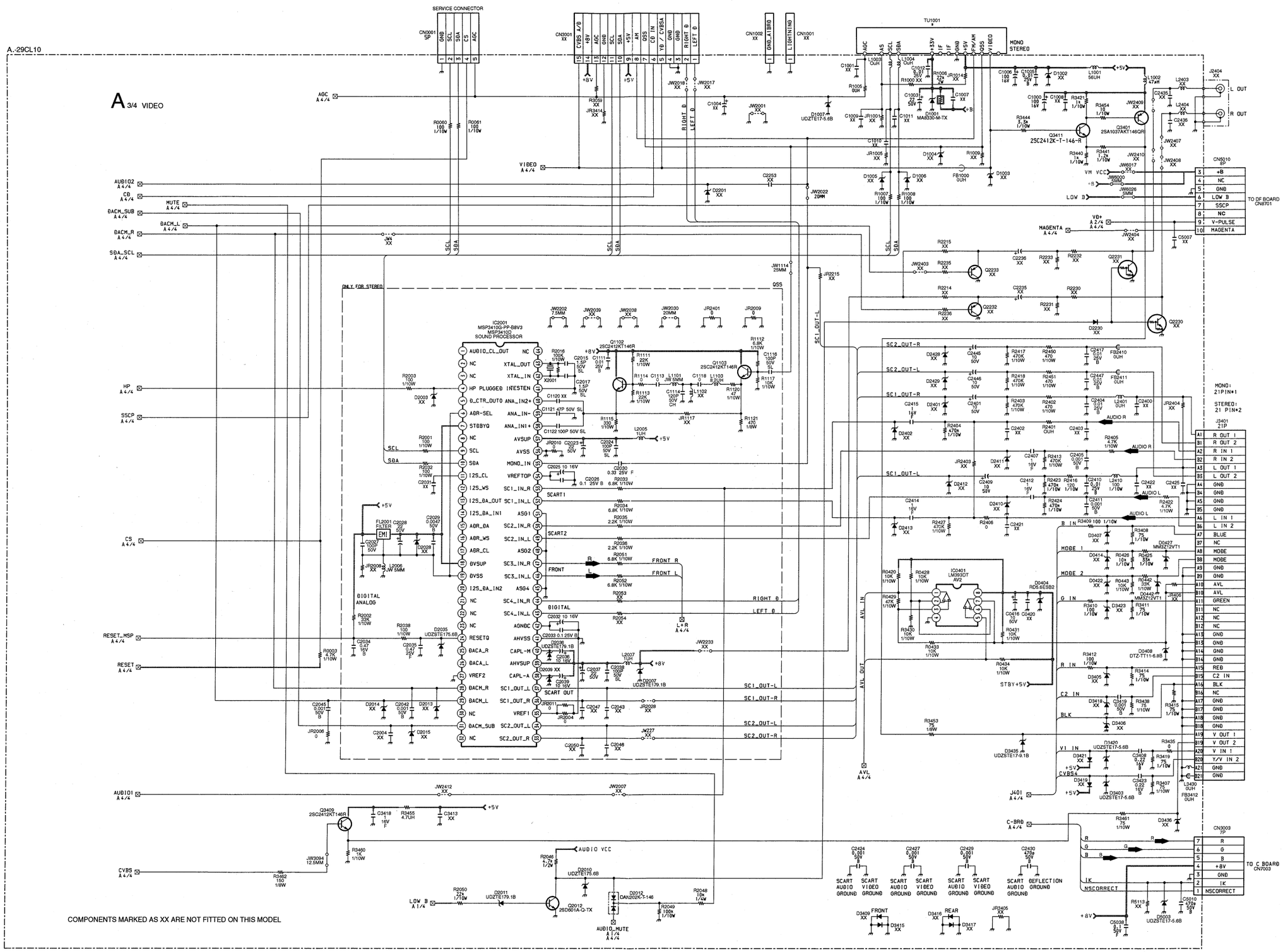


COMPONENTS MARKED AS XX ARE NOT FITTED ON THIS MODEL

~ A Board Schematic Diagram [Power Supply] Page 1/4 ~



~ A Board Schematic Diagram [Deflection] Page 2/4 ~

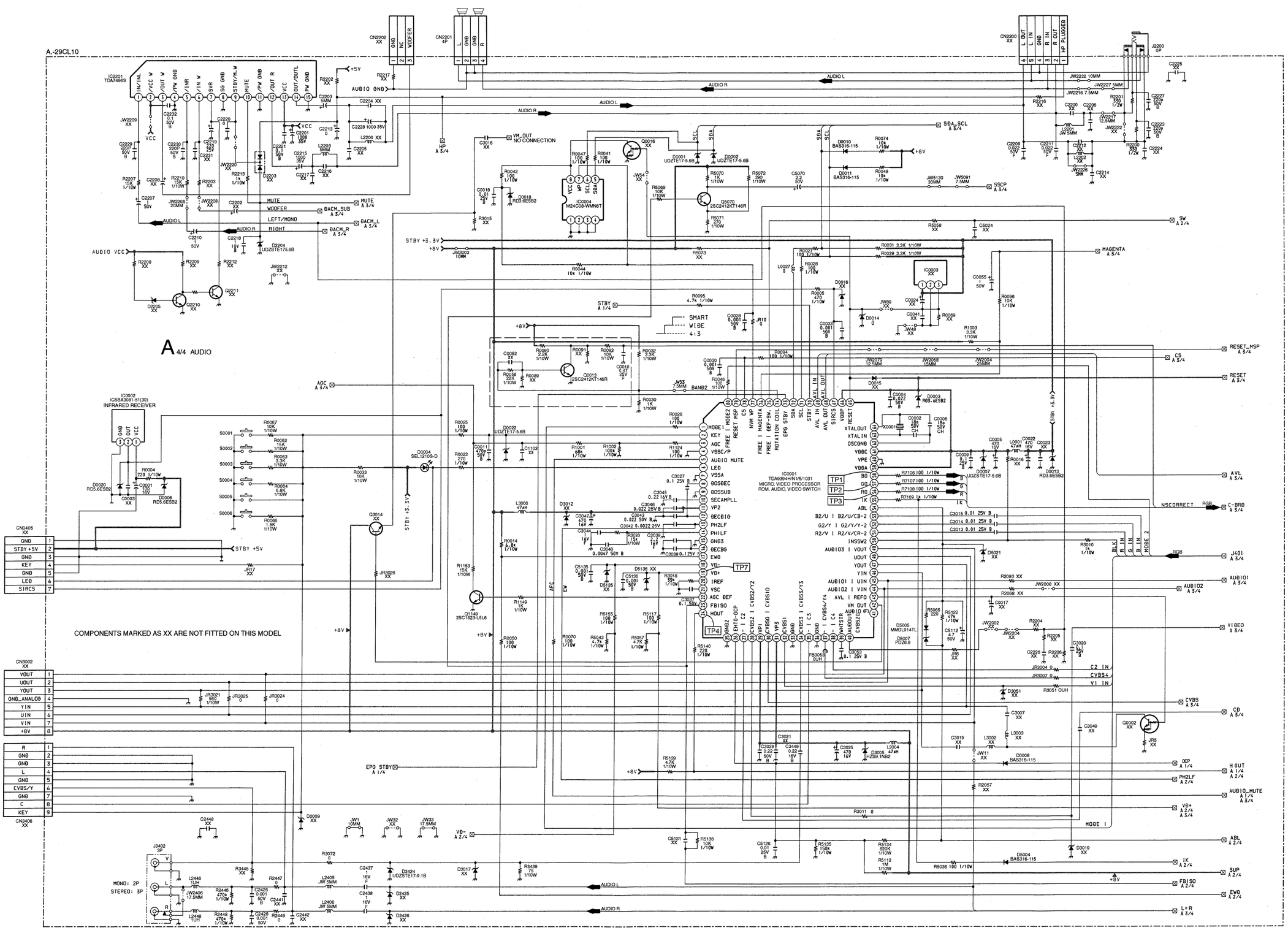


CN5010 9P	
3	+B
4	NC
5	GND
6	LOW B
7	SSCP
8	NC
9	V-PULSE
10	MAGENTA

CN3003 7P	
7	R
6	G
5	B
4	+8V
3	GND
2	IK
1	NSCORRECT

J3401 21P	
A1	R OUT 1
B1	R OUT 2
A2	R IN 1
B2	R IN 2
A3	L OUT 1
B3	L OUT 2
A4	GND
B4	GND
A5	GND
B5	GND
A6	L IN 1
B6	L IN 2
A7	BLUE
B7	NC
A8	MODE
B8	MODE
A9	GND
B9	GND
A10	AVL
B10	AVL
A11	GREEN
B11	NC
A12	NC
B12	NC
A13	GND
B13	GND
A14	GND
B14	GND
A15	RED
B15	C2 IN
A16	BLK
B16	NC
A17	GND
B17	GND
A18	GND
B18	GND
A19	V OUT 1
B19	V OUT 2
A20	V IN 1
B20	Y/V IN 2
A21	GND
B21	GND

~ A Board Schematic Diagram [Video] Page 3/4 ~



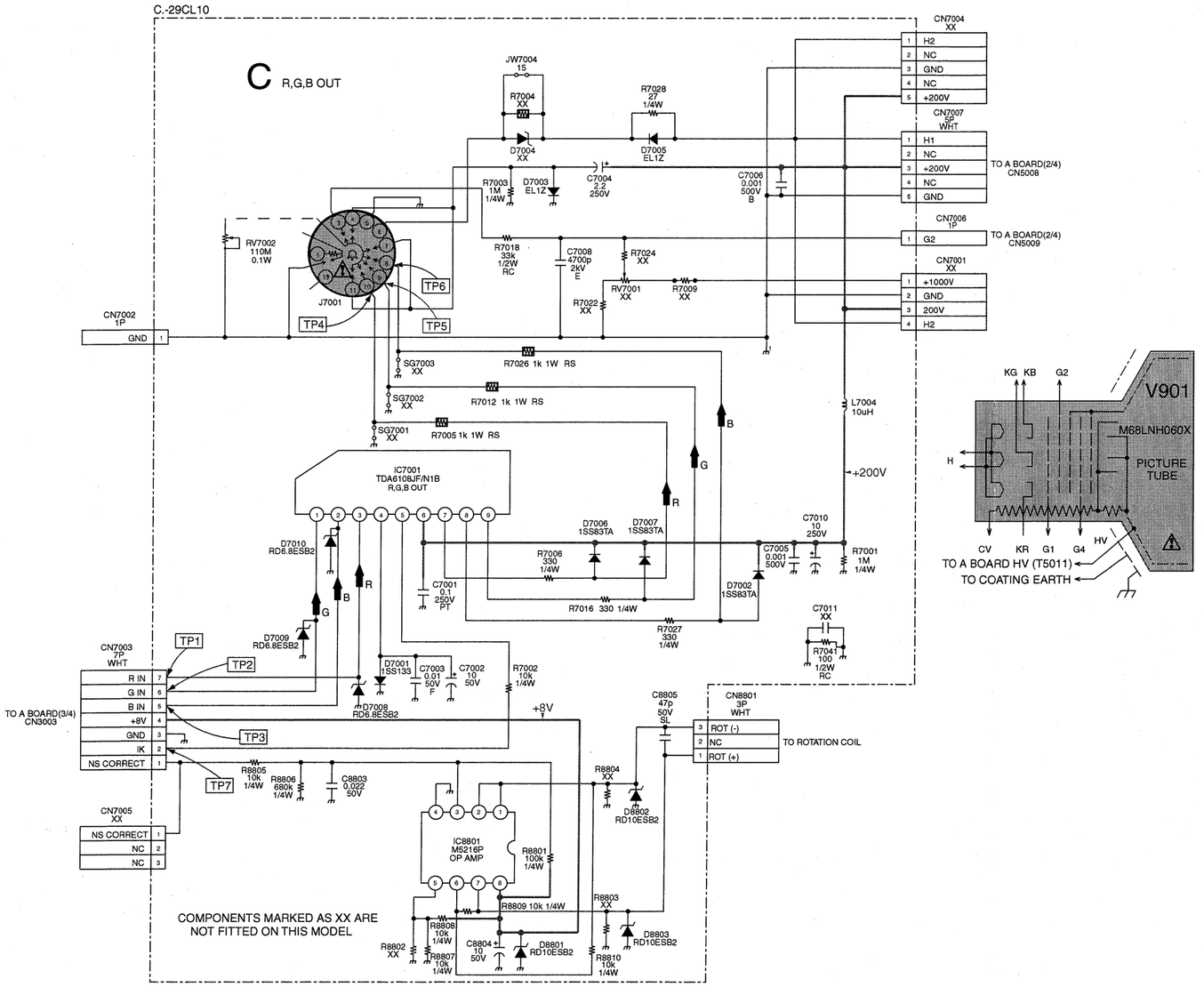
~ A Board Schematic Diagram [Audio] Page 4/4 ~

~ C Board Semiconductor Voltages ~

Ref	Anode	Cathode	Ref	Anode	Cathode	Ref	Anode	Cathode
D7001	0.7	0	D7006	183.5	194.5	D7010	0	1.9
D7002	182.2	194.5	D7007	180.1	194.5	D8801	0	8.0
D7003	0	0	D7008	0	1.9	D8802	0	3.8
D7005	0	0.7	D7009	0	1.9	D8803	0	4.2

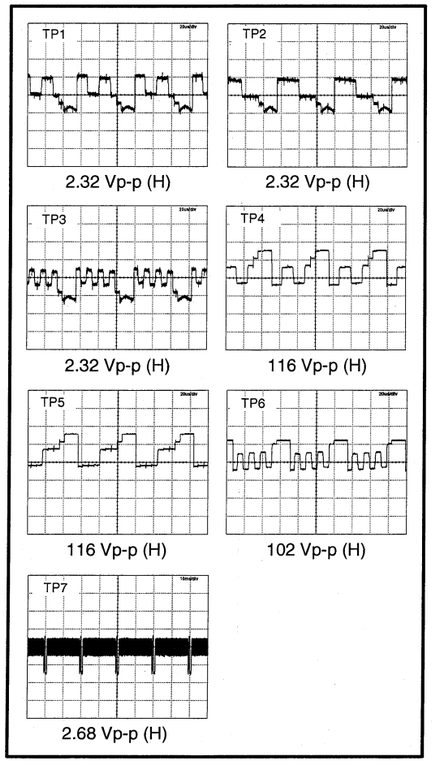
~ C Board IC Voltages ~

Ref No	Pin No	Voltage (V)	Ref No	Pin No	Voltage (V)
IC7001	1	1.9	IC8801	1	3.8
	2	1.9		2	3.8
	3	1.8		3	3.8
	4	0.7		4	0
	5	3.5		5	4.0
	6	194.6		6	4.0
	7	184.2		7	4.2
	8	184.1		8	8.0
	9	182.4			

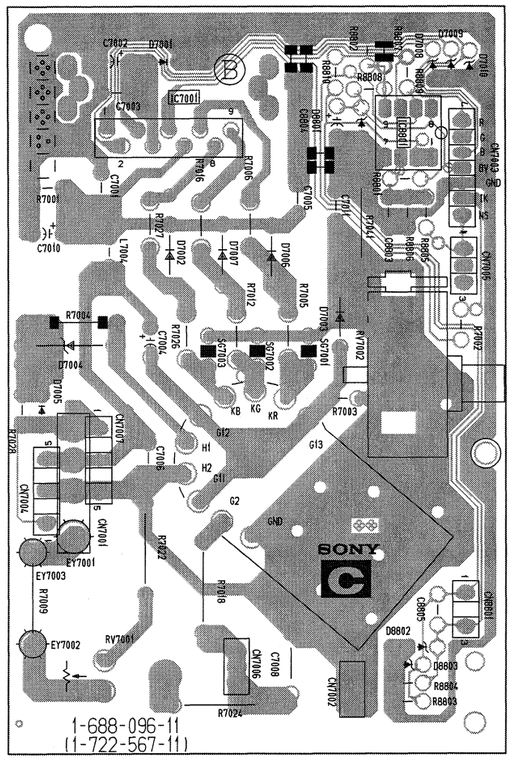


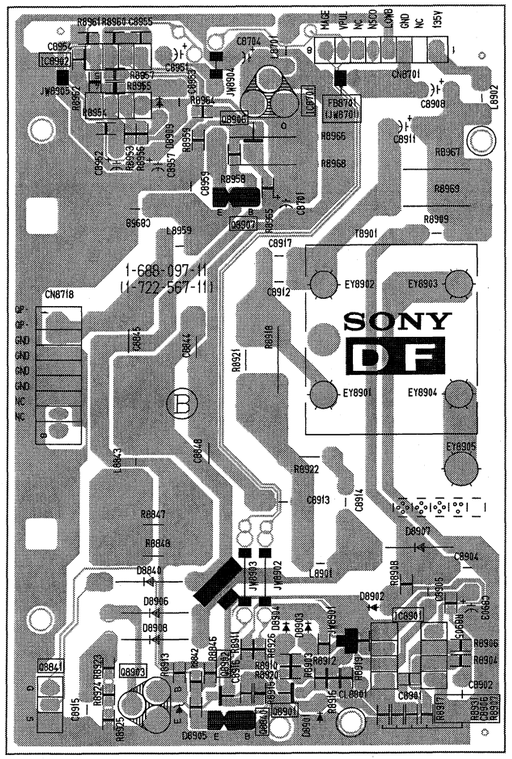
~ C Board Schematic Diagram [R-G-B Out] ~

~ C Board Waveforms ~

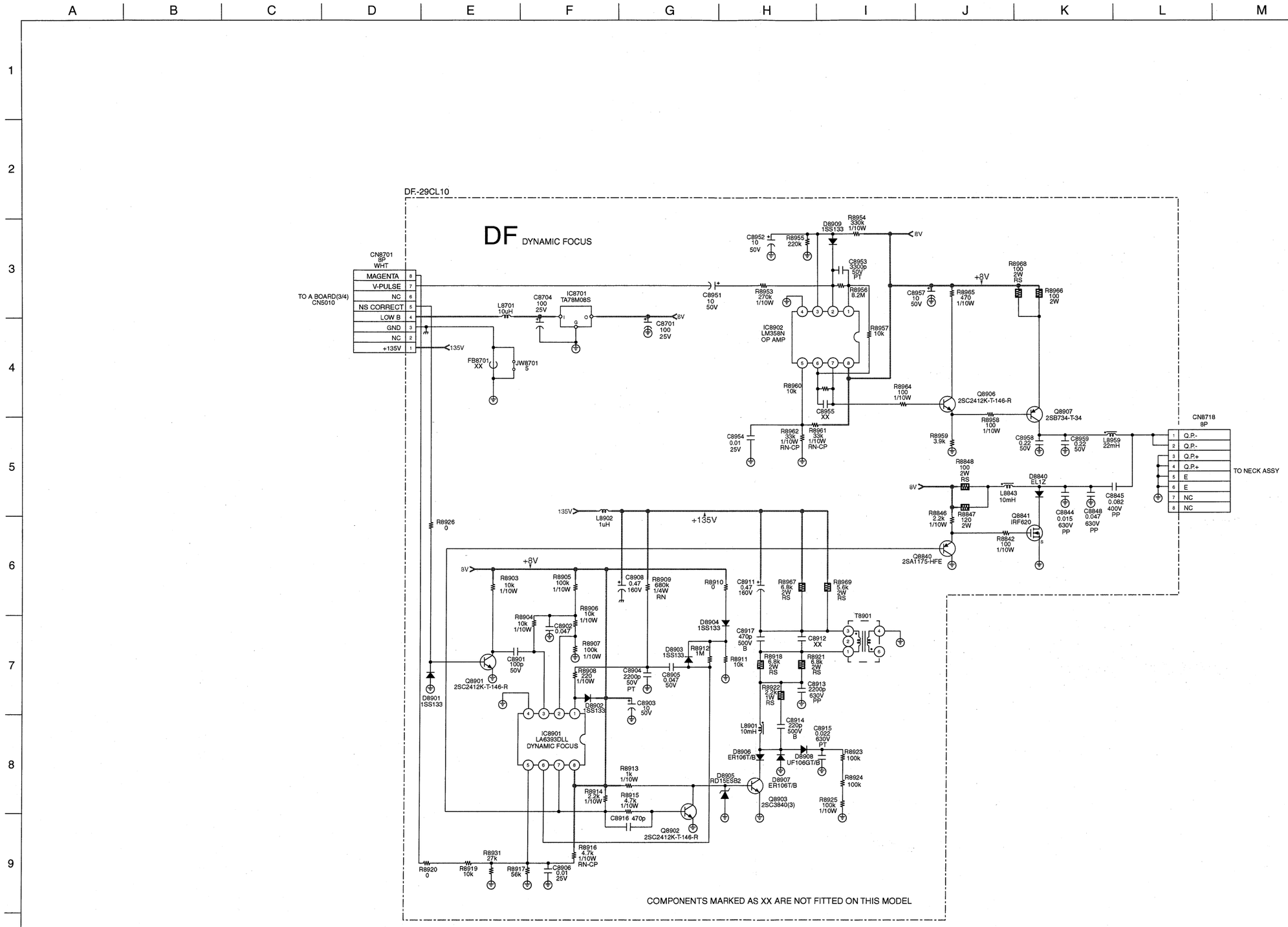


~ C Printed Wiring Board Conductor side ~





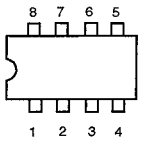
~ DF Printed Wiring Board Conductor side ~



~ DF Board Schematic Diagram [Dynamic Focus] ~

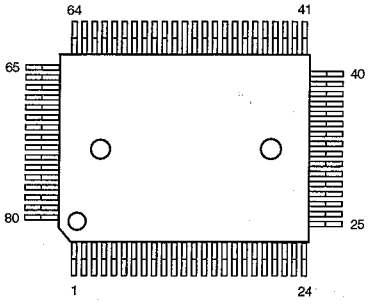
5-4. SEMICONDUCTORS

LM358N
LM393DT
LM393N
M5216P
TDA2822M
TEA2124



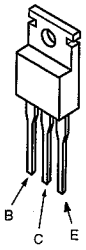
(TOP VIEW)

TDA9394H

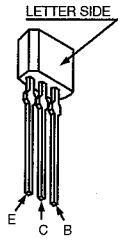


(MARKING SIDE VIEW)

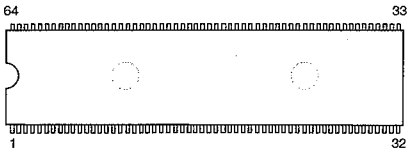
IRF614-005
IRF614-037
IRF620



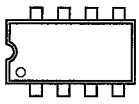
2SA933AS-QT
2SAG33ASQT
2SA933AS-RT
2SC1740S-RT
2SC2785-HFE



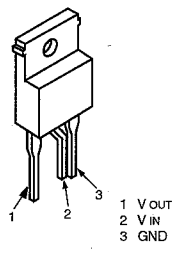
MSP3410G-PP-B8V3



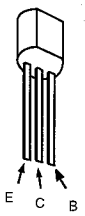
TOP209P


(TOP VIEW)

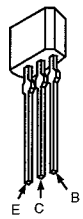
SE-135N
SE135N-LF4



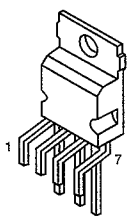
BF421-AMMO
2SA1091-O



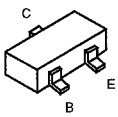
2SC2785-HFE



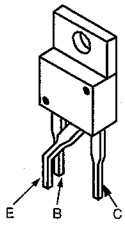
STV9379



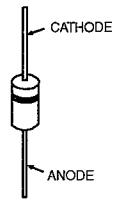
DTA144ESA
DTA144ESA
DTC114ESA
DTC114EKA-T146
DTC143TKA-T146
DTC144EKA-T-146R
R2SA1162-G
2SA1037AK-T146
2SC1623-L5L6
2SD601A-Q-TX
2SC1623-L5-L6
2SC2412K-QR
2SC2412K-T-146-QR



2SK2518-01MR
2SK2251-01-F19
2SK2640-01MR



AK04-V1
AU-01Z-V1
BYD33G
BYD33G-AMMO
DINL20-TA
D1NL20U
DINL40-TA2
ERB44-06TP1
EGP20G
EG-1Z-V1
EL1Z
ERD28-06S
ERD28-06S
ERC06-15S
FMN-G12S
GP08D
RGP10GPKG23
RG15GPKG23
RG1CLF-B1
RU-3AM
RU3YX-LF-C4
RU3YX-V1
RU-4AM-T3
1SS292T-77



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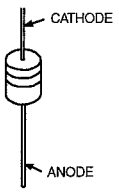
ERA83-006
MTZJ-3.6A
MTZJ-T-77-2.2A
HZS9.1NB2
MTZJ-T-77-3.6B
MTZJ-4.7C
MTZJ-T-77-5.1B
MTZJ-T-77-5.6B
MTZJ-T-77-6.8A
MTZJ-T-77-8.2B
MTZJ-7.5B
MTZJ-T-77-9.1A
MTZJ-T-77-9.1B
MTZJ-T-77-10
MTZJ-T-72-10A
MTZJ-T-72-10B
MTZJ-T-77-15B
MTZJ-T-77-33A
MTZJ-33C
MTZJ-7.5B
P6KE200ASY
RD3.6ES-B2
RD3.9ES-B2
RD5.1ESB2
RD5.6ESB2
RD6.8ES-B2
RD7.5ESB2
RD9.1ES-B3
RD10ESB2
RD15ESB2
1SS119-25
1SS133T-77



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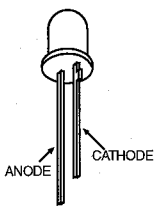

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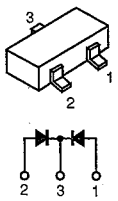
DTZ33B



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RD12SB2
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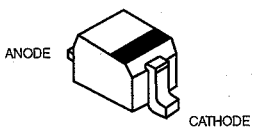
UDZSTE-175.6B
UDZS-TE-17-6.8B
UDZSTE-179.1B
UDZ-TE-17-22B



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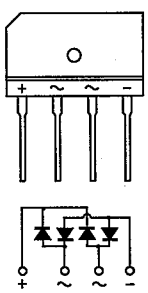

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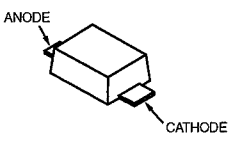
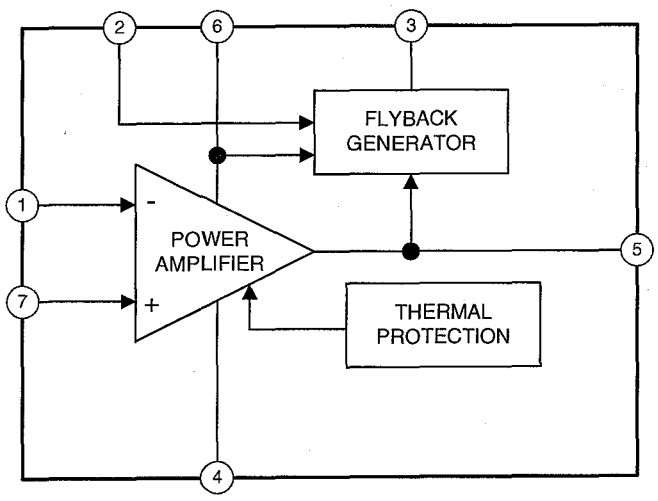
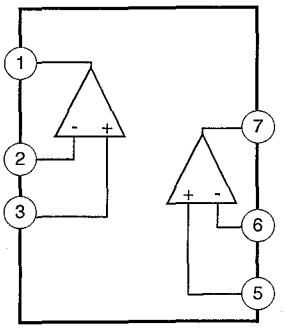


5-5 IC BLOCK DIAGRAMS

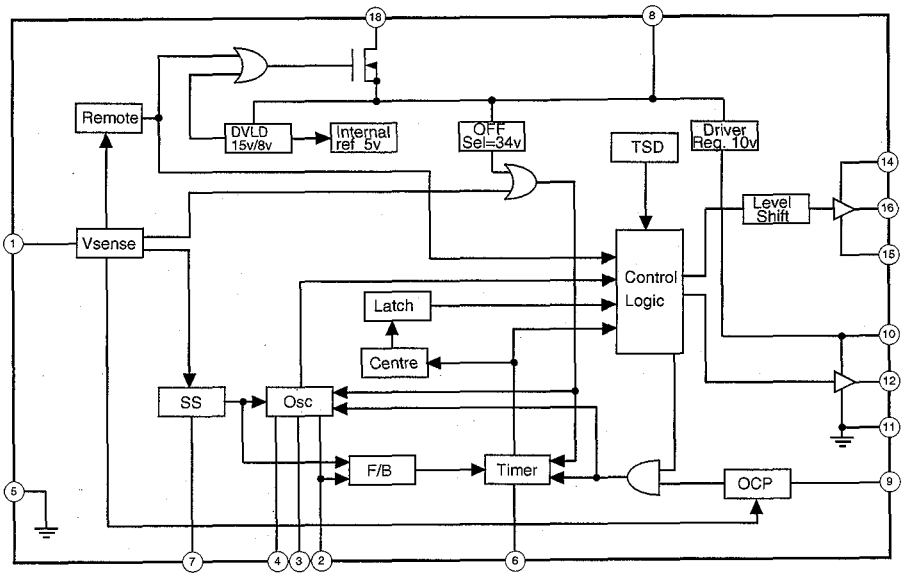
A BOARD IC5001 STV9379A



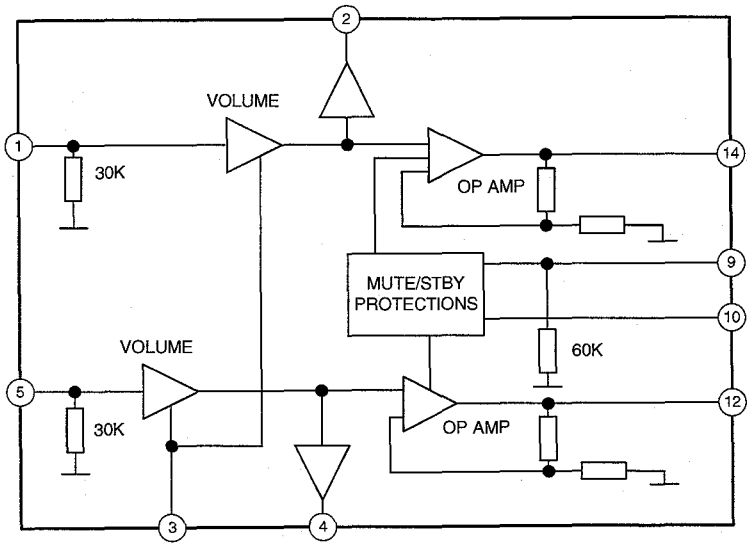
A BOARD IC0401/IC5031 LM393DT



A BOARD IC6001 MCZ3001D



A BOARD IC2201 TDA7496S



SECTION 6
EXPLODED VIEWS

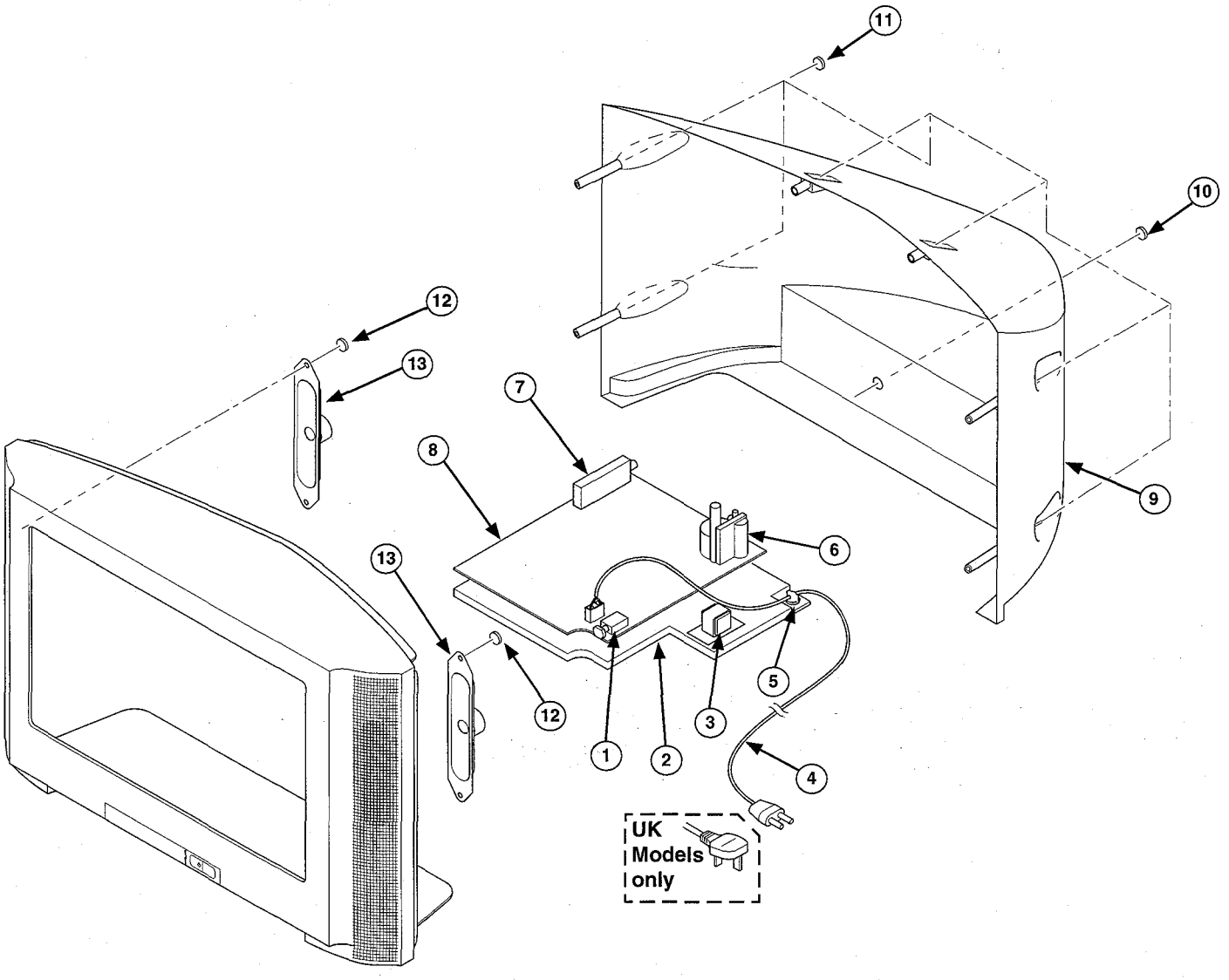
Note : Les composants indentifies par une trame et par une marque ⚠ sonte d'une importance critique pour la securite. Ne les remplacer que par des pieces du numero specifie.

Note : The components identified by shading and marked ⚠ are critical for safety. Replace only with the part numbers specified in the parts list.

NOTE :

- Items with no part number and no description are not stocked because they are seldom required for routine service.
- The construction parts of an assembled part are indicated with a collation number in the remarks column.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

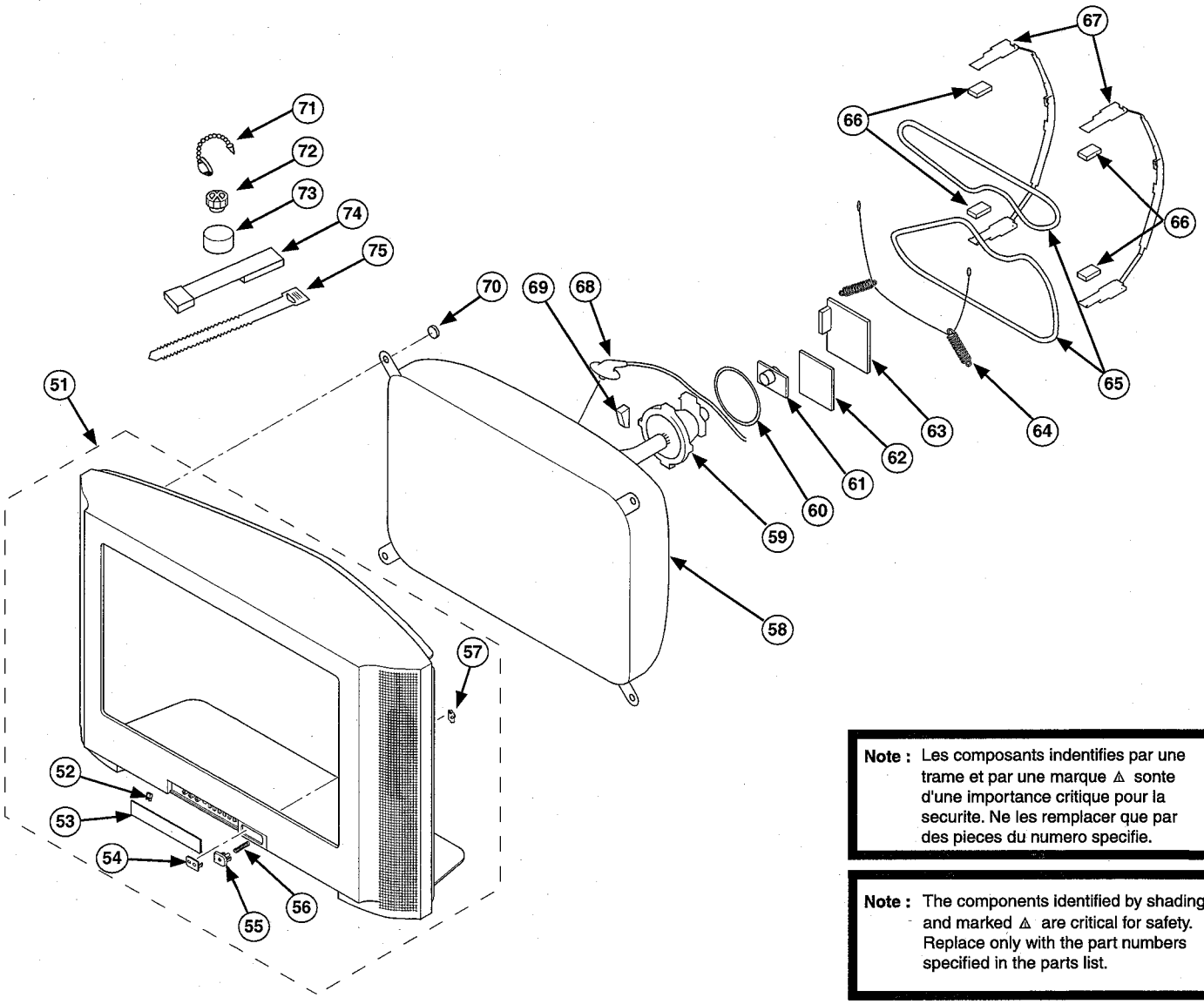
6-1. CHASSIS



REF.NO.		PART.NO	DESCRIPTION	REMARK
1	⚠	1-571-433-21	SWITCH, PUSH (AC POWER)	
2		*4-093-663-01	BRACKET, MAIN	
3	⚠	1-424-733-11	COIL, PFC CHOKE 65MMH	
4	⚠	1-823-715-11	CORD, POWER (KV-29CL10B/29CL10E/29CL10K)	
		1-776-860-11	POWER CORD, FILTER (UK) (KV-29CL10U)	
5		*4-202-531-01	AC CORD LOCK (SC)	
6	⚠	1-453-372-21	TRANSFORMER ASSY, FLYBACK (NX-4521//Z214)	
7		8-598-535-20	FRONTEND BTF-EF411 (KV-29CL10B)	
		8-598-533-10	FRONTEND BTF-EC411 (KV-29CL10E/29CL10K)	
		8-598-529-10	FRONTEND BTF-EU611 (KV-29CL10U)	

REF.NO.	PART.NO	DESCRIPTION	REMARK
8	*A-1302-131-A	A BOARD, COMPLETE (KV-29CL10B)	
	*A-1302-073-A	A BOARD, COMPLETE (KV-29CL10E/29CL10K)	
	*A-1302-132-A	A BOARD, COMPLETE (KV-29CL10U)	
9	*4-093-656-01	REAR COVER	
10	7-685-663-71	SCREW +BVTP 4X16 TYPE2 IT-3	
11	7-685-663-79	SCREW +BVTP 4X16 TYPE2 IT-3	
12	4-058-870-01	SCREW, (4X16) W(+) P TAPPING	
13	1-529-988-11	SPEAKER (4.2X24CM)	

6-2. PICTURE TUBE



Note : Les composants indentifies par une trame et par une marque ⚠ sonte d'une importance critique pour la securite. Ne les remplacer que par des pieces du numero specifie.

Note : The components identified by shading and marked ⚠ are critical for safety. Replace only with the part numbers specified in the parts list.

REF.NO.		PART.NO	DESCRIPTION	REMARK
51		*X-4041-348-1	BEZNET ASSY	52-57
52		4-093-657-01	SPRING, DOOR	
53		4-093-660-01	DOOR, CONTROL	
54		4-093-662-01	WINDOW, ORNAMENTAL	
55		4-093-659-01	BUTTON, POWER	
56		4-204-426-01	SPRING	
57		4-205-375-01	GUIDE LIGHT	
58	⚠	8-735-097-05	PICTURE TUBE (M68LNH060X)	
59	⚠	8-451-494-51	DEFLECTION YOKE (Y29RSA-L)	
60		1-452-896-11	COIL, NA ROTATION (RT200)	
61	⚠	8-453-011-11	NECK ASSEMBLY NA299-M	
62		*A-1302-075-A	DF BOARD, COMPLETE	
63		*A-1302-074-A	C BOARD, COMPLETE	

REF.NO.		PART.NO	DESCRIPTION	REMARK
64		4-369-318-21	SPRING, TENSION	
65	⚠	1-416-654-21	COIL, DEMAGNETIC	
66		*4-203-390-11	CUSHION, DGC	
67		*4-204-768-01	HOLDER, DGC (29")	
68	⚠	1-251-946-21	CAP ASSY, HIGH VOLTAGE	
69		3-704-495-01	SPACER, DY	
70		4-046-765-12	SCREW, TAPPING 7+ CROWN WASHER	
71		4-308-870-00	CLIP, LEAD WIRE	
72		1-452-094-00	MAGNET, ROTATABLE DISK; 15MM Ø	
73		1-452-032-00	MAGNET, DISK; 10MM Ø	
74		X-4387-214-1	PERMALLOY ASSY, CORRECTION	
75		3-701-007-00	BAND BINDING	

SECTION 7
ELECTRICAL PARTS LIST

PARTS LISTING TABLE OF CONTENTS

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C BOARD COMPLETE Parts List :	42
DF BOARD COMPLETE Parts List :	42
A BOARD COMMON Parts List : Parts common to all models in this manual	43
A BOARD VARIANT Parts List : Parts that belong only to the model specified	
Model	
(KV-29CL10B) :	51
(KV-29CL10E) :	51
(KV-29CL10K/KV-29CL10K) :	51
(KV-29CL10U) :	51
MISCELLANEOUS :	51
ACCESSORIES AND PACKAGING MATERIALS :	51
REMOTE COMMANDER :	51

Note : Refer to the designated variant parts list when seeking a part indicated by an asterisk (*)
Parts indicated (XX) on the Schematic Diagram are not used in this model and therefore do not appear in the Parts List.

Note : The components identified by shading and marked ⚠ are critical for safety. Replace only with the part numbers specified in the parts list.

C DF

REF.NO.	PART.NO	DESCRIPTION		REMARK
*** A-1302-074-A C Board, Complete**				
	4-382-854-01	SCREW (M3X8), P, SW (+)		
		< CAPACITOR >		
C7001	1-136-189-00	MYLAR	0.1UF	10.00% 250V
C7002	1-126-964-11	ELECT	10UF	20.00% 50V
C7003	1-101-004-00	CERAMIC	0.01UF	50V
C7004	1-107-649-11	ELECT	2.2UF	20.00% 250V
C7005	1-162-318-11	CERAMIC	0.001UF	10.00% 500V
C7006	1-162-318-11	CERAMIC	0.001UF	10.00% 500V
C7008	1-115-350-51	CERAMIC	0.0047UF	2KV
C7010	1-107-652-11	ELECT	10UF	20.00% 250V
C8803	1-101-005-00	CERAMIC	0.022UF	50V
C8804	1-126-964-11	ELECT	10UF	20.00% 50V
C8805	1-101-880-00	CERAMIC	47PF	5.00% 50V
		< CONNECTOR >		
CN7002	1-695-915-11	TAB (CONTACT)		
CN7003	*1-816-978-51	PLUG, CONNECTOR 7P		
CN7006	1-695-915-11	TAB (CONTACT)		
CN7007	*1-816-976-51	PLUG, CONNECTOR 5P		
CN8801	*1-816-974-51	PLUG, CONNECTOR 3P		
		< DIODE >		
D7001	8-719-991-33	DIODE 1SS133T-77		
D7002	8-719-901-83	DIODE 1SS83		
D7003	8-719-302-43	DIODE EL1Z		
D7005	8-719-302-43	DIODE EL1Z		
D7006	8-719-901-83	DIODE 1SS83		
D7007	8-719-901-83	DIODE 1SS83		
D7008	8-719-109-97	DIODE RD6.8ESB2		
D7009	8-719-109-97	DIODE RD6.8ESB2		
D7010	8-719-109-97	DIODE RD6.8ESB2		
D8801	8-719-110-17	DIODE RD10ESB2		
D8802	8-719-110-17	DIODE RD10ESB2		
D8803	8-719-110-17	DIODE RD10ESB2		
		< IC >		
IC7001	8-759-562-43	IC TDA6108JF/N1B		
IC8801	8-759-603-37	IC M5216P		
		< SOCKET >		
J7001 ⚠	1-251-732-11	SOCKET, CRT		
		< COIL >		
L7004	1-414-183-41	INDUCTOR	10UH	

REF.NO.	PART.NO	DESCRIPTION			REMARK
		< RESISTOR >			
R7001	1-247-903-00	CARBON	1M	5%	1/4W
R7002	1-249-429-11	CARBON	10K	5%	1/4W
R7003	1-247-903-00	CARBON	1M	5%	1/4W
R7005	1-215-869-11	METAL OXIDE	1K	5%	1W
R7006	1-249-411-11	CARBON	330	5%	1/4W
R7012	1-215-869-11	METAL OXIDE	1K	5%	1W
R7016	1-249-411-11	CARBON	330	5%	1/4W
R7018	1-202-814-11	SOLID	33K	10%	1/2W
R7026	1-215-869-11	METAL OXIDE	1K	5%	1W
R7027	1-249-411-11	CARBON	330	5%	1/4W
R7028	1-249-398-11	CARBON	27	5%	1/4W
R7041	1-202-549-00	SOLID	100	20%	1/2W
R8801	1-249-441-11	CARBON	100K	5%	1/4W
R8805	1-249-429-11	CARBON	10K	5%	1/4W
R8806	1-247-899-11	CARBON	680K	5%	1/4W
R8807	1-249-429-11	CARBON	10K	5%	1/4W
R8808	1-249-429-11	CARBON	10K	5%	1/4W
R8809	1-249-429-11	CARBON	10K	5%	1/4W
R8810	1-249-429-11	CARBON	10K	5%	1/4W
		< RESISTOR VARIABLE >			
RV7002	1-241-656-21	RES, ADJ, METAL FILM 110M			
*** A-1302-075-A DF Board, Complete**					
		< CAPACITOR >			
C8701	1-104-665-11	ELECT	100UF	20.00%	25V
C8704	1-104-665-11	ELECT	100UF	20.00%	25V
C8844	1-100-146-11	FILM	0.015UF	5%	630V
C8845	1-129-725-00	FILM	0.082UF	5.00%	400V
C8848	1-100-143-11	FILM	0.047UF	5%	630V
C8901	1-162-927-11	CERAMIC CHIP	100PF	5.00%	50V
C8902	1-137-374-11	MYLAR	0.047UF	5.00%	50V
C8903	1-126-964-11	ELECT	10UF	20.00%	50V
C8904	1-130-475-00	MYLAR	0.0022UF	5.00%	50V
C8905	1-137-374-11	MYLAR	0.047UF	5.00%	50V
C8906	1-162-970-11	CERAMIC CHIP	0.01UF	10.00%	25V
C8908	1-109-954-11	ELECT	0.47UF	20.00%	160V
C8911	1-109-954-11	ELECT	0.47UF	20.00%	160V
C8913	1-129-992-00	FILM	0.0024UF	5.00%	630V
C8914	1-102-244-00	CERAMIC	220PF	10.00%	500V
C8915	1-136-205-11	MYLAR	0.022UF	5.00%	630V
C8916	1-162-962-11	CERAMIC CHIP	470PF	10.00%	50V
C8917	1-102-228-00	CERAMIC	470PF	10.00%	500V
C8951	1-126-964-11	ELECT	10UF	20.00%	50V
C8952	1-126-964-11	ELECT	10UF	20.00%	50V
C8953	1-137-367-11	MYLAR	0.0033UF	5.00%	50V
C8954	1-162-970-11	CERAMIC CHIP	0.01UF	10.00%	25V

REF.NO.	PART.NO	DESCRIPTION			REMARK
C8957	1-126-964-11	ELECT	10UF	20.00%	50V
C8958	1-136-169-00	FILM	0.22UF	5.00%	50V
C8959	1-136-169-00	FILM	0.22UF	5.00%	50V
		< CONNECTOR >			
CN8701	1-816-979-511	PIN, CONNECTOR (PC BOARD) 8P			
CN8718	*1-770-723-11	CONNECTOR, BOARD TO BOARD 8P			
		< DIODE >			
D8840	8-719-302-43	DIODE EL1Z			
D8901	8-719-991-33	DIODE 1SS133T-77			
D8902	8-719-991-33	DIODE 1SS133T-77			
D8903	8-719-991-33	DIODE 1SS133T-77			
D8904	8-719-991-33	DIODE 1SS133T-77			
D8905	8-719-110-41	DIODE RD15ESB2			
D8906	6-500-105-01	DIODE ER106T/B			
D8907	6-500-105-01	DIODE ER106T/B			
D8908	6-500-126-01	DIODE UF106GT/B			
D8909	8-719-991-33	DIODE 1SS133T-77			
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IC8701	6-702-992-01	IC TA78M08S			
IC8901	8-759-659-67	IC LA6393DLL			
IC8902	6-701-625-01	IC LM358N			
		< COIL >			
L8701	1-414-183-41	INDUCTOR	10UH		
L8843	1-406-989-21	INDUCTOR	10MH		
L8901	1-406-677-11	INDUCTOR	10MH		
L8902	1-414-177-11	INDUCTOR	1UH		
L8959	1-406-679-11	INDUCTOR	22MH		
		< TRANSISTOR >			
Q8840	8-729-119-76	TRANSISTOR 2SA1175-HFE			
Q8841	8-729-926-76	TRANSISTOR IRF620			
Q8901	8-729-901-81	TRANSISTOR 2SC2412K-T-146-R			
Q8902	8-729-901-81	TRANSISTOR 2SC2412K-T-146-R			
Q8903	8-729-043-95	TRANSISTOR 2SC3840(3)			
Q8906	8-729-901-81	TRANSISTOR 2SC2412K-T-146-R			
Q8907	8-729-140-97	TRANSISTOR 2SB734-34			
		< RESISTOR >			
R8842	1-216-025-11	RES-CHIP	100	5%	1/10W
R8846	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R8847	1-216-451-11	METAL OXIDE	120	5%	2W
R8848	1-215-886-11	METAL OXIDE	100	5%	2W
R8903	1-216-073-91	RES-CHIP	10K	5%	1/10W
R8904	1-216-073-91	RES-CHIP	10K	5%	1/10W
R8905	1-216-097-11	RES-CHIP	100K	5%	1/10W
R8906	1-216-073-91	RES-CHIP	10K	5%	1/10W

REF.NO.	PART.NO	DESCRIPTION			REMARK
R8907	1-216-097-11	RES-CHIP	100K	5%	1/10W
R8908	1-216-033-00	RES-CHIP	220	5%	1/10W
R8909	1-215-489-00	METAL	680K	1%	1/4W
R8910	1-216-295-91	SHORT CHIP	0		
R8911	1-216-073-91	RES-CHIP	10K	5%	1/10W
R8912	1-216-121-11	RES-CHIP	1M	5%	1/10W
R8913	1-216-049-11	RES-CHIP	1K	5%	1/10W
R8914	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R8915	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R8916	1-216-667-11	METAL CHIP	4.7K	0.5%	1/10W
R8917	1-216-693-11	METAL CHIP	56K	0.5%	1/10W
R8918	1-215-897-11	METAL OXIDE	6.8K	5%	2W
R8919	1-216-675-91	METAL CHIP	10K	0.5%	1/10W
R8920	1-216-295-91	SHORT CHIP	0		
R8921	1-215-897-11	METAL OXIDE	6.8K	5%	2W
R8922	1-215-871-11	METAL OXIDE	2.2K	5%	1W
R8923	1-216-097-11	RES-CHIP	100K	5%	1/10W
R8924	1-216-097-11	RES-CHIP	100K	5%	1/10W
R8925	1-216-097-11	RES-CHIP	100K	5%	1/10W
R8926	1-216-295-91	SHORT CHIP	0		
R8931	1-216-083-00	RES-CHIP	27K	5%	1/10W
R8953	1-216-107-00	RES-CHIP	270K	5%	1/10W
R8954	1-216-109-00	RES-CHIP	330K	5%	1/10W
R8955	1-216-105-91	RES-CHIP	220K	5%	1/10W
R8956	1-218-463-11	RES-CHIP	8.2M	5%	1/10W
R8957	1-216-073-91	RES-CHIP	10K	5%	1/10W
R8958	1-216-025-11	RES-CHIP	100	5%	1/10W
R8959	1-216-063-91	RES-CHIP	3.9K	5%	1/10W
R8960	1-216-073-91	RES-CHIP	10K	5%	1/10W
R8961	1-216-687-11	METAL CHIP	33K	0.5%	1/10W
R8962	1-216-687-11	METAL CHIP	33K	0.5%	1/10W
R8964	1-216-025-11	RES-CHIP	100	5%	1/10W
R8965	1-216-041-00	RES-CHIP	470	5%	1/10W
R8966	1-215-886-11	METAL OXIDE	100	5%	2W
R8967	1-215-897-11	METAL OXIDE	6.8K	5%	2W
R8968	1-215-886-11	METAL OXIDE	100	5%	2W
R8969	1-216-461-00	METAL OXIDE	5.6K	5%	2W
		< TRANSFORMER >			
T8901	1-437-837-11	FERRITE TRANSFORMER (DFT)			

*** A-1302-131-A A Board, Complete (KV-29CL10B)**
*** A-1302-073-A A Board, Complete (KV-29CL10E/ KV-29CL10K)**
*** A-1302-132-A A Board, Complete (KV-29CL10U)**

A Board Common Parts

4-206-220-01	HOLDER, LED	
4-382-854-01	SCREW (M3X8), P, SW (+)	
4-382-854-01	SCREW (M3X8), P, SW (+)	

A

REF.NO.	PART.NO	DESCRIPTION	REMARK
	< CAPACITOR >		
C0001	1-126-933-11	ELECT 100UF	20.00% 16V
C0002	1-163-233-91	CERAMIC CHIP 18PF	5.00% 50V
C0004	1-163-037-11	CERAMIC CHIP 0.022UF	10.00% 50V
C0005	1-126-935-11	ELECT 470UF	20.00% 16V
C0006	1-163-233-91	CERAMIC CHIP 18PF	5.00% 50V
C0009	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V
C0010	1-164-005-11	CERAMIC CHIP 0.47UF	25V
C0011	1-163-005-91	CERAMIC CHIP 470PF	10.00% 50V
C0018	1-162-970-11	CERAMIC CHIP 0.01UF	10.00% 25V
C0022	1-126-935-11	ELECT 470UF	20.00% 16V
C0028	1-163-009-91	CERAMIC CHIP 0.001UF	10.00% 50V
C0030	1-163-009-91	CERAMIC CHIP 0.001UF	10.00% 50V
C0033	1-163-009-91	CERAMIC CHIP 0.001UF	10.00% 50V
C0055	1-126-960-11	ELECT 1UF	20.00% 50V
C0416	1-126-964-11	ELECT 10UF	20.00% 50V
C1000	1-126-933-11	ELECT 100UF	20.00% 16V
C1003	1-126-965-91	ELECT 22UF	20.00% 50V
C1005	1-162-970-11	CERAMIC CHIP 0.01UF	10.00% 25V
C1006	1-126-933-11	ELECT 100UF	20.00% 16V
C1012	1-162-970-11	CERAMIC CHIP 0.01UF	10.00% 25V
C1111	1-162-970-11	CERAMIC CHIP 0.01UF	10.00% 25V
C1113	1-216-295-91	SHORT CHIP 0	
C1114	1-163-253-11	CERAMIC CHIP 120PF	5.00% 50V
C1116	1-163-117-00	CERAMIC CHIP 100PF	5.00% 50V
C1118	1-216-295-91	SHORT CHIP 0	
C1121	1-163-109-00	CERAMIC CHIP 47PF	5.00% 50V
C1122	1-163-117-00	CERAMIC CHIP 100PF	5.00% 50V
C2015	1-163-084-00	CERAMIC CHIP 1.5PF	0.25PF 50V
C2017	1-163-084-00	CERAMIC CHIP 1.5PF	0.25PF 50V
C2023	1-126-965-91	ELECT 22UF	20.00% 50V
C2024	1-163-117-00	CERAMIC CHIP 100PF	5.00% 50V
C2025	1-126-157-11	ELECT 10UF	20.00% 16V
C2026	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V
C2027	1-163-117-00	CERAMIC CHIP 100PF	5.00% 50V
C2028	1-126-965-91	ELECT 22UF	20.00% 50V
C2029	1-163-017-00	CERAMIC CHIP 0.0047UF	10.00% 50V
C2030	1-164-336-11	CERAMIC CHIP 0.33UF	25V
C2032	1-126-157-11	ELECT 10UF	20.00% 16V
C2033	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V
C2034	1-107-823-11	CERAMIC CHIP 0.47UF	10.00% 16V
C2035	1-164-005-11	CERAMIC CHIP 0.47UF	25V
C2036	1-126-157-11	ELECT 10UF	20.00% 16V
C2037	1-126-965-91	ELECT 22UF	20.00% 50V
C2038	1-163-117-00	CERAMIC CHIP 100PF	5.00% 50V
C2039	1-126-157-11	ELECT 10UF	20.00% 16V
C2042	1-163-009-91	CERAMIC CHIP 0.001UF	10.00% 50V
C2045	1-163-009-91	CERAMIC CHIP 0.001UF	10.00% 50V
C2201	1-126-952-11	ELECT 1000UF	20.00% 35V
C2203	1-535-303-00	LEAD,JUMPER (5.0MM)	
C2207	1-126-960-11	ELECT 1UF	20.00% 50V
C2209	1-163-033-91	CERAMIC CHIP 0.022UF	50V
C2210	1-126-960-11	ELECT 1UF	20.00% 50V
C2211	1-163-033-91	CERAMIC CHIP 0.022UF	50V
C2213	1-216-295-91	SHORT CHIP 0	
C2215	1-126-952-11	ELECT 1000UF	20.00% 35V
C2218	1-109-982-11	CERAMIC CHIP 1UF	10.00% 10V
C2219	1-104-666-11	ELECT 220UF	20.00% 25V
C2220	1-216-295-91	SHORT CHIP 0	
C2221	1-115-339-11	CERAMIC CHIP 0.1UF	10.00% 50V
C2223	1-163-001-11	CERAMIC CHIP 220PF	10.00% 50V
C2227	1-163-001-11	CERAMIC CHIP 220PF	10.00% 50V
C2228	1-126-952-11	ELECT 1000UF	20.00% 35V
C2229	1-163-001-11	CERAMIC CHIP 220PF	10.00% 50V
C2230	1-163-001-11	CERAMIC CHIP 220PF	10.00% 50V
C2232	1-115-339-11	CERAMIC CHIP 0.1UF	10.00% 50V
C2401	1-126-964-11	ELECT 10UF	20.00% 50V
C2404	1-162-970-11	CERAMIC CHIP 0.01UF	10.00% 25V
C2405	1-163-009-91	CERAMIC CHIP 0.001UF	10.00% 50V
C2407	1-164-346-11	CERAMIC CHIP 1UF	16V
C2409	1-126-964-11	ELECT 10UF	20.00% 50V
C2410	1-162-970-11	CERAMIC CHIP 0.01UF	10.00% 25V
C2411	1-163-009-91	CERAMIC CHIP 0.001UF	10.00% 50V
C2412	1-164-346-11	CERAMIC CHIP 1UF	16V
C2414	1-164-346-11	CERAMIC CHIP 1UF	16V
C2415	1-164-346-11	CERAMIC CHIP 1UF	16V
C2417	1-162-970-11	CERAMIC CHIP 0.01UF	10.00% 25V
C2424	1-163-009-91	CERAMIC CHIP 0.001UF	10.00% 50V
C2426	1-163-009-91	CERAMIC CHIP 0.001UF	10.00% 50V
C2427	1-163-009-91	CERAMIC CHIP 0.001UF	10.00% 50V
C2428	1-163-009-91	CERAMIC CHIP 0.001UF	10.00% 50V
C2429	1-163-009-91	CERAMIC CHIP 0.001UF	10.00% 50V
C2430	1-102-114-00	CERAMIC 470PF	10.00% 50V
C2437	1-164-346-11	CERAMIC CHIP 1UF	16V
C2438	1-164-346-11	CERAMIC CHIP 1UF	16V
C2445	1-126-964-11	ELECT 10UF	20.00% 50V
C2446	1-126-964-11	ELECT 10UF	20.00% 50V
C2447	1-162-970-11	CERAMIC CHIP 0.01UF	10.00% 25V
C3013	1-162-970-11	CERAMIC CHIP 0.01UF	10.00% 25V
C3014	1-162-970-11	CERAMIC CHIP 0.01UF	10.00% 25V
C3015	1-162-970-11	CERAMIC CHIP 0.01UF	10.00% 25V
C3020	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V
C3025	1-126-935-11	ELECT 470UF	20.00% 16V
C3027	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V
C3029	1-163-037-11	CERAMIC CHIP 0.022UF	10.00% 50V
C3037	1-136-244-11	FILM 0.1UF	2.00% 50V
C3038	1-163-038-91	CERAMIC CHIP 0.1UF	25V
C3039	1-164-505-11	CERAMIC CHIP 2.2UF	16V
C3040	1-163-017-00	CERAMIC CHIP 0.0047UF	10.00% 50V

Note : The components identified by shading and marked ⚠ are critical for safety. Replace only with the part numbers specified in the parts list.

A

REF.NO.	PART.NO	DESCRIPTION	REMARK
C3042	1-162-625-11	CERAMIC CHIP 0.0047UF	5.00% 50V
C3043	1-163-037-11	CERAMIC CHIP 0.022UF	10.00% 50V
C3044	1-164-346-11	CERAMIC CHIP 1UF	16V
C3045	1-164-489-11	CERAMIC CHIP 0.22UF	10.00% 16V
C3046	1-164-227-11	CERAMIC CHIP 0.022UF	10.00% 25V
C3047	1-126-935-11	ELECT 470UF	20.00% 16V
C3053	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V
C3408	1-127-715-91	CERAMIC CHIP 0.22UF	10% 16V
C3418	1-164-346-11	CERAMIC CHIP 1UF	16V
C3419	1-163-009-91	CERAMIC CHIP 0.001UF	10.00% 50V
C3423	1-127-715-91	CERAMIC CHIP 0.22UF	10% 16V
C3449	1-127-715-91	CERAMIC CHIP 0.22UF	10% 16V
C5001	1-126-968-11	ELECT 100UF	20.00% 50V
C5002	1-163-038-91	CERAMIC CHIP 0.1UF	25V
C5003	1-126-968-11	ELECT 100UF	20.00% 50V
C5004	1-106-220-00	MYLAR 0.1UF	10.00% 100V
C5005	1-137-194-81	FILM 0.47UF	5.00% 50V
C5006	1-162-970-11	CERAMIC CHIP 0.01UF	10.00% 25V
C5008	1-163-035-00	CERAMIC CHIP 0.047UF	50V
C5009	1-107-364-11	MYLAR 0.01UF	10.00% 200V
C5010	1-163-005-91	CERAMIC CHIP 470PF	10.00% 50V
C5013	1-107-662-11	ELECT 22UF	20.00% 350V
C5015	1-104-666-11	ELECT 220UF	20.00% 25V
C5017	1-115-781-11	ELECT 220UF	20.00% 25V
C5018	1-106-375-12	MYLAR 0.022UF	5.00% 200V
C5019	1-163-275-11	CERAMIC CHIP 0.001UF	5.00% 50V
C5020	1-163-038-91	CERAMIC CHIP 0.1UF	25V
C5022	1-130-495-00	MYLAR 0.1UF	5.00% 50V
C5025	1-123-024-21	ELECT 33UF	160V
C5030	1-162-970-11	CERAMIC CHIP 0.01UF	10.00% 25V
C5031	1-126-964-11	ELECT 10UF	20.00% 50V
C5032	1-163-037-11	CERAMIC CHIP 0.022UF	10.00% 50V
C5035	1-163-233-91	CERAMIC CHIP 18PF	5.00% 50V
C5036	1-117-813-21	FILM 0.75UF	5.00% 250V
C5037	1-106-351-00	MYLAR 0.0022UF	99% 200V
C5038	1-165-319-11	CERAMIC CHIP 0.1UF	50V
C5039	1-111-230-11	ELECT 1UF	20.00% 160V
C5040	1-136-206-11	MYLAR 0.033UF	5.00% 630V
C5041	1-106-383-00	MYLAR 0.047UF	10.00% 200V
C5042	1-161-754-00	CERAMIC 0.001UF	10.00% 2KV
C5043	1-162-134-11	CERAMIC 470PF	10.00% 2KV
C5045	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V
C5046	1-130-118-00	FILM 0.051UF	5.00% 400V
C5047	1-115-521-11	FILM 0.82UF	5.00% 250V
C5048	1-162-134-11	CERAMIC 470PF	10.00% 2KV
C5050	1-107-638-11	ELECT 33UF	20.00% 160V
C5052	1-102-212-00	CERAMIC 820PF	10.00% 500V
C5053	1-137-417-11	MYLAR 0.015UF	10.00% 100V
C5055	1-127-717-11	FILM 19000PF	3% 1.2KV
C5070	1-126-961-11	ELECT 2.2UF	20.00% 50V
C5080	1-162-970-11	CERAMIC CHIP 0.01UF	10.00% 25V
C5082	1-163-255-11	CERAMIC CHIP 150PF	5.00% 50V
C5083	1-163-009-91	CERAMIC CHIP 0.001UF	10.00% 50V
C5112	1-126-963-11	ELECT 4.7UF	20.00% 50V
C5126	1-162-970-11	CERAMIC CHIP 0.01UF	10.00% 25V
C5135	1-163-009-91	CERAMIC CHIP 0.001UF	10.00% 50V
C5136	1-163-009-91	CERAMIC CHIP 0.001UF	10.00% 50V
C6001 ⚠	1-137-999-11	FILM 0.1UF	275V
C6003 ⚠	1-119-899-51	CERAMIC 1000PF	10.00% 250V
C6004 ⚠	1-119-899-51	CERAMIC 1000PF	10.00% 250V
C6005	1-115-785-11	ELECT 470UF	20.00% 25V
C6005	1-115-758-11	ELECT 470UF	20.00% 16V
C6006	1-117-751-11	ELECT(BLOCK) 220UF	20.00% 450V
C6007	1-126-964-11	ELECT 10UF	20.00% 50V
C6008	1-126-963-11	ELECT 4.7UF	20.00% 50V
C6010	1-126-941-11	ELECT 470UF	20.00% 25V
C6011	1-163-009-91	CERAMIC CHIP 0.001UF	10.00% 50V
C6012 ⚠	1-104-571-91	CERAMIC 0.0015UF	10.00% 2KV
C6013 ⚠	1-104-571-91	CERAMIC 0.0015UF	10.00% 2KV
C6014 ⚠	1-161-964-51	CERAMIC 0.0047UF	250V
C6015	1-115-339-11	CERAMIC CHIP 0.1UF	10.00% 50V
C6016	1-165-127-11	CERAMIC 470PF	10.00% 500V
C6017	1-165-127-11	CERAMIC 470PF	10.00% 500V
C6018	1-126-949-11	ELECT 220UF	20.00% 35V
C6019	1-165-127-51	CERAMIC 470PF	10.00% 500V
C6020	1-137-990-22	FILM 33000PF	3% 800V
C6021	1-165-127-51	CERAMIC 470PF	10.00% 500V
C6024	1-126-935-11	ELECT 470UF	20.00% 16V
C6025 ⚠	1-127-798-51	CERAMIC 4700PF	20.00% 250V
C6026	1-126-967-11	ELECT 47UF	20.00% 50V
C6028	1-126-963-11	ELECT 4.7UF	20.00% 50V
C6029	1-165-127-11	CERAMIC 470PF	10.00% 500V
C6030	1-107-641-11	ELECT 220UF	20.00% 160V
C6031	1-126-942-61	ELECT 1000UF	20.00% 25V
C6032	1-126-964-11	ELECT 10UF	20.00% 50V
C6033	1-163-009-91	CERAMIC CHIP 0.001UF	10.00% 50V
C6035	1-136-165-00	FILM 0.1UF	5.00% 50V
C6036	1-136-479-11	FILM 0.001UF	5.00% 100V
C6037	1-126-967-11	ELECT 47UF	20.00% 50V
C6042	1-104-665-11	ELECT 100UF	20.00% 25V
C6043	1-165-127-11	CERAMIC 470PF	10.00% 500V
C6045	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V
C6057	1-126-952-11	ELECT 1000UF	20.00% 35V
C6127	1-126-964-11	ELECT 10UF	20.00% 50V
C6141	1-126-943-11	ELECT 2200UF	20.00% 25V

< CONNECTOR >

CN0001	*1-816-976-51	PLUG, CONNECTOR 5P
CN2201	*1-816-975-51	PLUG, CONNECTOR 4P
CN3003	*1-816-978-51	PLUG, CONNECTOR 7P

Note : The components identified by shading and marked ⚠ are critical for safety. Replace only with the part numbers specified in the parts list.

A

REF.NO.	PART.NO	DESCRIPTION	REMARK
CN5001	1-580-798-11	CONNECTOR PIN (DY)	
CN5008	*1-816-976-51	PLUG, CONNECTOR 5P	
CN5009	1-695-915-11	TAB (CONTACT)	
CN5010	*1-816-979-51	PLUG, CONNECTOR 8P	
CN6001 ⚠	*1-580-843-11	PIN, CONNECTOR (POWER)	
CN6002 ⚠	1-508-765-00	PIN, CONNECTOR (5MM PITCH) 3P	
CN6003 ⚠	*1-508-786-00	PIN, CONNECTOR (5MM PITCH) 2P	
CN6004 ⚠	1-695-915-11	TAB (CONTACT)	
CN6005 ⚠	*1-691-960-11	PIN, CONNECTOR (PC BOARD) 3P	
		< DIODE >	
D0001	8-719-069-55	DIODE UDZSTE-175.6B	
D0002	8-719-069-55	DIODE UDZSTE-175.6B	
D0003	8-719-109-69	DIODE RD3.6ESB2	
D0004	8-719-302-45	DIODE SEL1210S-D	
D0006	8-719-109-89	DIODE RD5.6ESB2	
D0007	8-719-069-55	DIODE UDZSTE-175.6B	
D0008	8-719-074-43	DIODE BAS316-115	
D0010	8-719-074-43	DIODE BAS316-115	
D0011	8-719-074-43	DIODE BAS316-115	
D0013	8-719-109-69	DIODE RD3.6ESB2	
D0014	1-216-295-91	SHORT CHIP 0	
D0018	8-719-109-69	DIODE RD3.6ESB2	
D0020	8-719-109-89	DIODE RD5.6ESB2	
D0022	8-719-069-55	DIODE UDZSTE-175.6B	
D0404	8-719-109-89	DIODE RD5.6ESB2	
D0408	8-719-978-33	DIODE DTZ-TT11-6.8B	
D0427	8-719-082-01	DIODE MM3Z12VT1	
D0442	8-719-082-01	DIODE MM3Z12VT1	
D1001	6-500-159-01	DIODE MA8330-M-TX	
D1007	8-719-069-55	DIODE UDZSTE-175.6B	
D2007	8-719-069-60	DIODE UDZSTE-179.1B	
D2010	8-719-069-55	DIODE UDZSTE-175.6B	
D2011	8-719-069-60	DIODE UDZSTE-179.1B	
D2012	8-719-914-43	DIODE DAN202K	
D2035	8-719-069-55	DIODE UDZSTE-175.6B	
D2036	8-719-069-60	DIODE UDZSTE-179.1B	
D2204	8-719-069-55	DIODE UDZSTE-175.6B	
D3005	8-719-929-15	DIODE HZS9.1NB2	
D3403	8-719-069-55	DIODE UDZSTE-175.6B	
D3420	8-719-069-55	DIODE UDZSTE-175.6B	
D3424	8-719-069-60	DIODE UDZSTE-179.1B	
D3435	8-719-069-60	DIODE UDZSTE-179.1B	
D5001	8-719-979-85	DIODE EGP20G	
D5002	8-719-081-90	DIODE PDZ22B-115	
D5003	8-719-069-55	DIODE UDZSTE-175.6B	
D5004	8-719-074-43	DIODE BAS316-115	
D5005	8-719-081-97	DIODE MMDL914T1	
D5006	6-500-106-01	DIODE PG4003T/B	
D5007	8-719-070-59	DIODE PDZ6.8B-115	
D5012	8-719-302-43	DIODE EL1Z	
D5013	8-719-979-85	DIODE EGP20G	
D5014	8-719-979-85	DIODE EGP20G	
D5034	8-719-302-43	DIODE EL1Z	
D5035	8-719-908-03	DIODE GP08D	
D5036	6-500-367-01	DIODE BY228RAS20-10	
D5037	8-719-070-62	DIODE PDZ9.1B-115	
D5038	8-719-908-03	DIODE GP08D	
D5039	6-500-565-01	DIODE BYW76-RAS17.5/12	
D5040	6-500-106-01	DIODE PG4003T/B	
D5041	1-216-295-91	SHORT CHIP 0	
D5073	8-719-082-00	DIODE MM3Z4V7T1	
D6001	8-719-510-53	DIODE D4SB60L	
D6002	8-719-911-19	DIODE 1SS119-25	
D6004	8-719-083-94	DIODE FUF4005	
D6008	8-719-063-70	DIODE D1NL20U	
D6011	8-719-991-33	DIODE 1SS133T-77	
D6012	8-719-991-33	DIODE 1SS133T-77	
D6013	8-719-911-19	DIODE 1SS119-25	
D6018	8-719-312-92	DIODE RK14V1	
D6019	8-719-312-92	DIODE RK14V1	
D6021	8-719-109-89	DIODE RD5.6ESB2	
D6023	8-719-911-19	DIODE 1SS119-25	
D6025	6-500-246-01	DIODE FBIU4D7M1-B-4	
D6033	8-719-109-69	DIODE RD3.6ESB2	
D6038	8-719-083-92	DIODE YG802C09RF122	
D6125	8-719-074-43	DIODE BAS316-115	
D6126	8-719-074-43	DIODE BAS316-115	
		< FUSE >	
F6001 ⚠	1-576-232-21	FUSE (H.B.C.) 5A/250V	
⚠	1-533-725-11	FUSE HOLDER (F6001)	
		< FERRITE BEAD >	
FB1000	1-414-760-21	FERRITE 0UH	
FB2410	1-414-760-21	FERRITE 0UH	
FB2411	1-414-760-21	FERRITE 0UH	
FB3053	1-414-760-21	FERRITE 0UH	
FB3412	1-414-760-21	FERRITE 0UH	
FB6001	1-469-578-11	FERRITE 1.1UH	
FB6002	1-469-578-11	FERRITE 1.1UH	
FB6003	1-412-911-11	FERRITE 0UH	
FB6004	1-469-578-11	FERRITE 1.1UH	
FB6005	1-469-578-11	FERRITE 1.1UH	
		< FILTER >	
FL2001	1-239-803-11	FILTER, EMI	

Note : The components identified by shading and marked ⚠ are critical for safety. Replace only with the part numbers specified in the parts list.

A

REF.NO.	PART.NO	DESCRIPTION	REMARK
	< IC >		
IC0001	6-702-097-02	IC TDA9394H/N1/5/1031	
IC0002	8-742-180-30	HYB IC SBX3081-51(30)	
IC0004	8-759-675-65	IC M24C08-WMN6T(A)	
IC0401	8-759-665-11	IC LM393DT	
IC2001	6-700-410-02	IC MSP3410G-PP-B8V3	
IC2201	6-703-485-01	IC TDA7496S	
IC5001	8-759-696-71	IC STV9379A	
IC5031	8-759-665-11	IC LM393DT	
IC6001	8-759-670-30	IC MCZ3001D	
IC6002	8-749-016-19	IC SE135N-LF4	
IC6003	6-702-992-01	IC TA78M08S	
IC6004	8-759-648-20	IC L7805CV/LSY	
IC6005	8-759-991-41	IC LM78L05ACZ	
IC6008	8-759-591-02	IC L78L33ABZ-AP	
	< SOCKET >		
J2200	1-815-325-11	JACK	
J3401	*1-766-296-21	CONNECTOR, DUAL SCART	
J3402	1-770-329-13	JACK, PIN 3P	
	< COIL >		
L0001	1-414-187-11	INDUCTOR 47UH	
L0027	1-216-295-91	SHORT CHIP 0	
L1001	1-412-534-31	INDUCTOR 56UH	
L1002	1-408-611-31	INDUCTOR 47UH	
L1003	1-414-760-21	FERRITE 0UH	
L1004	1-414-760-21	FERRITE 0UH	
L1101	1-535-303-00	LEAD, JUMPER (5.0MM)	
L1103	1-408-602-31	INDUCTOR 8.2UH	
L2005	1-414-177-11	INDUCTOR 1UH	
L2006	1-535-303-00	LEAD, JUMPER (5.0MM)	
L2007	1-414-177-11	INDUCTOR 1UH	
L2201	1-535-303-00	LEAD, JUMPER (5.0MM)	
L2203	1-535-303-00	LEAD, JUMPER (5.0MM)	
L2401	1-414-760-21	FERRITE 0UH	
L2405	1-535-303-00	LEAD, JUMPER (5.0MM)	
L2406	1-535-303-00	LEAD, JUMPER (5.0MM)	
L2410	1-216-025-11	RES-CHIP 100 5% 1/10W	
L2446	1-410-993-42	INDUCTOR 1UH	
L2448	1-410-993-42	INDUCTOR 1UH	
L3004	1-414-187-11	INDUCTOR 47UH	
L3006	1-414-187-11	INDUCTOR 47UH	
L3430	1-414-760-21	FERRITE 0UH	
L5001	1-414-187-11	INDUCTOR 47UH	
L5002	1-412-529-11	INDUCTOR 22UH	
L5003	1-412-521-31	INDUCTOR 4.7UH	
L5004	1-535-303-00	LEAD, JUMPER (5.0MM)	
L5005	1-412-542-41	INDUCTOR 270UH	
L5007	1-412-533-21	INDUCTOR 47UH	
L5032	1-412-553-11	INDUCTOR 3.3MH	
L5033	1-406-989-21	INDUCTOR 10MH	
L5034	1-216-025-11	RES-CHIP 100 5% 1/10W	
L5035	1-419-633-21	INDUCTOR 10MH	
L6001	1-414-183-41	INDUCTOR 10UH	
L6002	1-414-187-11	INDUCTOR 47UH	
L6003	1-412-531-31	INDUCTOR 33UH	
	< PHOTOCOUPLER >		
PH6101 ⚠	8-749-010-64	PHOTO COUPLER PC123F2	
	< PROTECTOR MODULE >		
PS2201 ⚠	1-533-597-31	IC LINK 5A 90V	
	< TRANSISTOR >		
Q0013	8-729-901-81	TRANSISTOR 2SC2412K-T-146-R	
Q1102	8-729-901-81	TRANSISTOR 2SC2412K-T-146-R	
Q1103	8-729-901-81	TRANSISTOR 2SC2412K-T-146-R	
Q1149	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q2012	8-729-422-33	TRANSISTOR 2SD601A-Q-TX	
Q3401	8-729-026-49	TRANSISTOR 2SA1037AK-T146-R	
Q3409	8-729-901-81	TRANSISTOR 2SC2412K-T-146-R	
Q3411	8-729-901-81	TRANSISTOR 2SC2412K-T-146-R	
Q5032	8-729-053-33	TRANSISTOR IRF614-037	
Q5033	6-550-592-01	TRANSISTOR ST2310DHI(027Y)	
Q5035	8-729-053-33	TRANSISTOR IRF614-037	
Q5070	8-729-901-81	TRANSISTOR 2SC2412K-T-146-R	
Q6001	8-729-026-49	TRANSISTOR 2SA1037AK-T146-R	
Q6002	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q6003	8-729-037-17	TRANSISTOR KRA104M-AT	
Q6004	8-729-036-60	TRANSISTOR KRC104M-AT	
Q6006	6-550-591-01	TRANSISTOR 2SK2543(LBS2SONY)	
Q6007	6-550-591-01	TRANSISTOR 2SK2543(LBS2SONY)	
Q6008	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q6009	8-729-026-49	TRANSISTOR 2SA1037AK-T146-R	
	< RESISTOR >		
JR10	1-216-295-91	SHORT CHIP 0	
JR2004	1-216-296-11	SHORT CHIP 0	
JR2006	1-216-295-91	SHORT CHIP 0	
JR2009	1-216-295-91	SHORT CHIP 0	
JR2010	1-216-295-91	SHORT CHIP 0	
JR2011	1-216-296-11	SHORT CHIP 0	
JR2401	1-216-295-91	SHORT CHIP 0	
JR3004	1-216-295-91	SHORT CHIP 0	
JR3007	1-216-295-91	SHORT CHIP 0	
JR3021	1-216-818-11	METAL CHIP 560 5% 1/10W	
JR3024	1-216-295-91	SHORT CHIP 0	

A

REF.NO.	PART.NO	DESCRIPTION			REMARK
JR3025	1-216-295-91	SHORT CHIP	0		
JR3419	1-216-022-00	RES-CHIP	75	5%	1/10W
JR5008	1-216-295-91	SHORT CHIP	0		
JR6001	1-216-295-91	SHORT CHIP	0		
JR6009	1-216-295-91	SHORT CHIP	0		
JR6010	1-216-295-91	SHORT CHIP	0		
R0003	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R0004	1-216-033-00	RES-CHIP	220	5%	1/10W
R0005	1-216-041-00	RES-CHIP	470	5%	1/10W
R0014	1-216-069-00	RES-CHIP	6.8K	5%	1/10W
R0023	1-216-035-00	RES-CHIP	270	5%	1/10W
R0025	1-216-025-11	RES-CHIP	100	5%	1/10W
R0026	1-216-025-11	RES-CHIP	100	5%	1/10W
R0027	1-216-025-11	RES-CHIP	100	5%	1/10W
R0028	1-216-025-11	RES-CHIP	100	5%	1/10W
R0029	1-216-061-91	RES-CHIP	3.3K	5%	1/10W
R0030	1-216-821-11	METAL CHIP	1K	5%	1/10W
R0031	1-216-061-91	RES-CHIP	3.3K	5%	1/10W
R0032	1-216-061-91	RES-CHIP	3.3K	5%	1/10W
R0033	1-216-073-91	RES-CHIP	10K	5%	1/10W
R0041	1-216-025-11	RES-CHIP	100	5%	1/10W
R0042	1-216-025-11	RES-CHIP	100	5%	1/10W
R0044	1-216-073-91	RES-CHIP	10K	5%	1/10W
R0046	1-216-025-11	RES-CHIP	100	5%	1/10W
R0047	1-216-025-11	RES-CHIP	100	5%	1/10W
R0048	1-216-073-91	RES-CHIP	10K	5%	1/10W
R0050	1-216-025-11	RES-CHIP	100	5%	1/10W
R0056	1-216-081-00	RES-CHIP	22K	5%	1/10W
R0060	1-216-025-11	RES-CHIP	100	5%	1/10W
R0061	1-216-025-11	RES-CHIP	100	5%	1/10W
R0062	1-216-077-91	RES-CHIP	15K	5%	1/10W
R0063	1-216-061-91	RES-CHIP	3.3K	5%	1/10W
R0064	1-216-069-00	RES-CHIP	6.8K	5%	1/10W
R0066	1-216-053-00	RES-CHIP	1.5K	5%	1/10W
R0067	1-216-073-91	RES-CHIP	10K	5%	1/10W
R0070	1-216-025-11	RES-CHIP	100	5%	1/10W
R0071	1-216-049-11	RES-CHIP	1K	5%	1/10W
R0074	1-216-073-91	RES-CHIP	10K	5%	1/10W
R0090	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R0092	1-216-073-91	RES-CHIP	10K	5%	1/10W
R0094	1-216-025-11	RES-CHIP	100	5%	1/10W
R0095	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R0096	1-216-073-91	RES-CHIP	10K	5%	1/10W
R0420	1-216-073-91	RES-CHIP	10K	5%	1/10W
R0425	1-216-085-91	RES-CHIP	33K	5%	1/10W
R0426	1-216-073-91	RES-CHIP	10K	5%	1/10W
R0428	1-216-073-91	RES-CHIP	10K	5%	1/10W
R0429	1-216-089-91	RES-CHIP	47K	5%	1/10W
R0430	1-216-073-91	RES-CHIP	10K	5%	1/10W
R0431	1-216-073-91	RES-CHIP	10K	5%	1/10W
R0433	1-216-073-91	RES-CHIP	10K	5%	1/10W
R0434	1-216-073-91	RES-CHIP	10K	5%	1/10W
R0442	1-216-085-91	RES-CHIP	33K	5%	1/10W
R0443	1-216-073-91	RES-CHIP	10K	5%	1/10W
R1001	1-216-093-91	RES-CHIP	68K	5%	1/10W
R1002	1-216-097-11	RES-CHIP	100K	5%	1/10W
R1003	1-216-061-91	RES-CHIP	3.3K	5%	1/10W
R1005	1-414-760-21	FERRITE	0UH		
R1006	1-215-900-11	METAL OXIDE	22K	5%	2W
R1007	1-216-025-11	RES-CHIP	100	5%	1/10W
R1008	1-216-025-11	RES-CHIP	100	5%	1/10W
R1111	1-216-081-00	RES-CHIP	22K	5%	1/10W
R1112	1-216-069-00	RES-CHIP	6.8K	5%	1/10W
R1113	1-216-081-00	RES-CHIP	22K	5%	1/10W
R1114	1-216-295-91	SHORT CHIP	0		
R1115	1-216-037-00	RES-CHIP	330	5%	1/10W
R1117	1-216-073-91	RES-CHIP	10K	5%	1/10W
R1120	1-216-017-91	RES-CHIP	47	5%	1/10W
R1121	1-216-190-00	RES-CHIP	470	5%	1/8W
R1124	1-216-025-11	RES-CHIP	100	5%	1/10W
R1149	1-216-049-11	RES-CHIP	1K	5%	1/10W
R1153	1-216-077-91	RES-CHIP	15K	5%	1/10W
R2001	1-216-025-11	RES-CHIP	100	5%	1/10W
R2002	1-216-085-91	RES-CHIP	33K	5%	1/10W
R2003	1-216-025-11	RES-CHIP	100	5%	1/10W
R2016	1-216-097-11	RES-CHIP	100K	5%	1/10W
R2032	1-216-025-11	RES-CHIP	100	5%	1/10W
R2033	1-216-069-00	RES-CHIP	6.8K	5%	1/10W
R2034	1-216-069-00	RES-CHIP	6.8K	5%	1/10W
R2035	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R2036	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R2038	1-216-025-11	RES-CHIP	100	5%	1/10W
R2046	1-260-107-11	CARBON	4.7K	5%	1/2W
R2048	1-249-429-11	CARBON	10K	5%	1/4W
R2049	1-216-097-11	RES-CHIP	100K	5%	1/10W
R2050	1-216-081-00	RES-CHIP	22K	5%	1/10W
R2051	1-216-069-00	RES-CHIP	6.8K	5%	1/10W
R2052	1-216-069-00	RES-CHIP	6.8K	5%	1/10W
R2200	1-260-093-11	CARBON	330	5%	1/2W
R2201	1-260-093-11	CARBON	330	5%	1/2W
R2207	1-216-077-91	RES-CHIP	15K	5%	1/10W
R2210	1-216-077-91	RES-CHIP	15K	5%	1/10W
R2213	1-216-049-11	RES-CHIP	1K	5%	1/10W
R2401	1-414-760-21	FERRITE	0UH		
R2402	1-216-041-00	RES-CHIP	470	5%	1/10W
R2403	1-216-113-00	RES-CHIP	470K	5%	1/10W
R2404	1-216-113-00	RES-CHIP	470K	5%	1/10W
R2405	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R2406	1-216-296-11	SHORT CHIP	0		

REF.NO.	PART.NO	DESCRIPTION			REMARK
R2413	1-216-113-00	RES-CHIP	470K	5%	1/10W
R2416	1-216-027-00	RES-CHIP	120	5%	1/10W
R2417	1-216-113-00	RES-CHIP	470K	5%	1/10W
R2418	1-216-113-00	RES-CHIP	470K	5%	1/10W
R2422	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R2423	1-216-113-00	RES-CHIP	470K	5%	1/10W
R2424	1-216-113-00	RES-CHIP	470K	5%	1/10W
R2427	1-216-113-00	RES-CHIP	470K	5%	1/10W
R2446	1-216-113-00	RES-CHIP	470K	5%	1/10W
R2447	1-216-295-91	SHORT CHIP	0		
R2448	1-216-113-00	RES-CHIP	470K	5%	1/10W
R2449	1-216-295-91	SHORT CHIP	0		
R2450	1-216-041-00	RES-CHIP	470	5%	1/10W
R2451	1-216-041-00	RES-CHIP	470	5%	1/10W
R3010	1-216-049-11	RES-CHIP	1K	5%	1/10W
R3011	1-216-295-91	SHORT CHIP	0		
R3018	1-208-820-11	METAL CHIP	39K	0.5%	1/10W
R3020	1-216-077-91	RES-CHIP	15K	5%	1/10W
R3051	1-414-760-21	FERRITE	0UH		
R3072	1-216-295-91	SHORT CHIP	0		
R3407	1-216-022-00	RES-CHIP	75	5%	1/10W
R3408	1-216-022-00	RES-CHIP	75	5%	1/10W
R3409	1-216-025-11	RES-CHIP	100	5%	1/10W
R3410	1-216-025-11	RES-CHIP	100	5%	1/10W
R3411	1-216-022-00	RES-CHIP	75	5%	1/10W
R3412	1-216-025-11	RES-CHIP	100	5%	1/10W
R3414	1-216-022-00	RES-CHIP	75	5%	1/10W
R3415	1-216-022-00	RES-CHIP	75	5%	1/10W
R3419	1-216-022-00	RES-CHIP	75	5%	1/10W
R3421	1-216-049-11	RES-CHIP	1K	5%	1/10W
R3435	1-216-295-91	SHORT CHIP	0		
R3438	1-216-022-00	RES-CHIP	75	5%	1/10W
R3439	1-216-022-00	RES-CHIP	75	5%	1/10W
R3440	1-216-049-11	RES-CHIP	1K	5%	1/10W
R3441	1-216-051-00	RES-CHIP	1.2K	5%	1/10W
R3444	1-216-061-91	RES-CHIP	3.3K	5%	1/10W
R3453	1-216-171-00	RES-CHIP	75	5%	1/8W
R3454	1-216-001-00	RES-CHIP	10	5%	1/10W
R3455	1-412-002-31	INDUCTOR	4.7UH		
R3460	1-216-049-11	RES-CHIP	1K	5%	1/10W
R3461	1-216-022-00	RES-CHIP	75	5%	1/10W
R3462	1-216-178-00	RES-CHIP	150	5%	1/8W
R5000	1-216-061-91	RES-CHIP	3.3K	5%	1/10W
R5001	1-216-091-00	RES-CHIP	56K	5%	1/10W
R5002	1-216-073-91	RES-CHIP	10K	5%	1/10W
R5003	1-215-888-00	METAL OXIDE	220	5%	2W
R5004	1-249-385-11	CARBON	2.2	5%	1/4W
R5005	1-216-667-11	METAL CHIP	4.7K	0.5%	1/10W
R5006	1-216-665-11	METAL CHIP	3.9K	0.5%	1/10W
R5007	1-216-349-00	METAL OXIDE	1	5%	1W

REF.NO.	PART.NO	DESCRIPTION			REMARK
R5008	1-216-667-11	METAL CHIP	4.7K	0.5%	1/10W
R5009	1-216-665-11	METAL CHIP	3.9K	0.5%	1/10W
R5010	1-216-113-00	RES-CHIP	470K	5%	1/10W
R5012	1-249-382-11	CARBON	1.2	5%	1/4W
R5013	1-216-097-11	RES-CHIP	100K	5%	1/10W
R5014	1-249-377-11	CARBON	0.47	5%	1/4W
R5015	1-249-377-11	CARBON	0.47	5%	1/4W
R5016	1-214-907-00	METAL	56K	1%	1/2W
R5017	1-215-447-00	METAL	12K	1%	1/4W
R5018	1-216-059-00	RES-CHIP	2.7K	5%	1/10W
R5020	1-215-884-11	METAL OXIDE	47	5%	2W
R5021	1-216-103-00	RES-CHIP	180K	5%	1/10W
R5022	1-216-097-11	RES-CHIP	100K	5%	1/10W
R5023	1-216-117-00	RES-CHIP	680K	5%	1/10W
R5024	1-216-077-91	RES-CHIP	15K	5%	1/10W
R5025	1-216-049-11	RES-CHIP	1K	5%	1/10W
R5026	1-216-089-91	RES-CHIP	47K	5%	1/10W
R5027	1-216-075-00	RES-CHIP	12K	5%	1/10W
R5028	1-216-097-11	RES-CHIP	100K	5%	1/10W
R5029	1-216-073-91	RES-CHIP	10K	5%	1/10W
R5030	1-216-085-91	RES-CHIP	33K	5%	1/10W
R5031	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R5032	1-216-059-00	RES-CHIP	2.7K	5%	1/10W
R5033	1-216-081-00	RES-CHIP	22K	5%	1/10W
R5034	1-216-111-00	RES-CHIP	390K	5%	1/10W
R5035	1-216-093-91	RES-CHIP	68K	5%	1/10W
R5036	1-216-025-11	RES-CHIP	100	5%	1/10W
R5038	1-535-143-71	LEAD, JUMPER (7.5MM)			
R5039	1-215-892-81	METAL OXIDE	1K	5%	2W
R5040	1-212-970-00	FUSIBLE	33	5%	1/2W
R5041	1-216-109-00	RES-CHIP	330K	5%	1/10W
R5042	1-216-121-11	RES-CHIP	1M	5%	1/10W
R5043	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R5044	1-216-103-00	RES-CHIP	180K	5%	1/10W
R5046	1-216-479-11	METAL OXIDE	560	5%	3W
R5047	1-535-143-71	LEAD, JUMPER (7.5MM)			
R5048	1-249-387-11	CARBON	3.3	5%	1/4W
R5049	1-216-364-21	METAL OXIDE	0.39	5%	2W
R5050	1-215-880-00	METAL OXIDE	10	5%	2W
R5051	1-215-867-00	METAL OXIDE	470	5%	1W
R5052	1-216-848-11	METAL CHIP	180K	5%	1/10W
R5053	1-249-381-11	CARBON	1	5%	1/4W
R5055	1-216-089-91	RES-CHIP	47K	5%	1/10W
R5056	1-215-915-11	METAL OXIDE	470	5%	3W
R5057	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R5061	1-216-117-00	RES-CHIP	680K	5%	1/10W
R5062	1-216-099-00	RES-CHIP	120K	5%	1/10W
R5063	1-216-097-11	RES-CHIP	100K	5%	1/10W
R5065	1-216-033-00	RES-CHIP	220	5%	1/10W
R5068	1-215-915-11	METAL OXIDE	470	5%	3W

Note : The components identified by shading and marked ⚠ are critical for safety. Replace only with the part numbers specified in the parts list.

A

REF.NO.	PART.NO	DESCRIPTION			REMARK
R5069	1-216-073-91	RES-CHIP	10K	5%	1/10W
R5070	1-216-049-11	RES-CHIP	1K	5%	1/10W
R5071	1-216-035-00	RES-CHIP	270	5%	1/10W
R5072	1-216-039-00	RES-CHIP	390	5%	1/10W
R5083	1-216-081-00	RES-CHIP	22K	5%	1/10W
R5089	1-216-295-91	SHORT CHIP	0		
R5091	1-215-892-11	METAL OXIDE	1K	5%	2W
R5095	1-249-377-11	CARBON	0.47	5%	1/4W
R5112	1-216-121-11	RES-CHIP	1M	5%	1/10W
R5117	1-216-025-11	RES-CHIP	100	5%	1/10W
R5122	1-216-089-91	RES-CHIP	47K	5%	1/10W
R5134	1-216-119-00	RES-CHIP	820K	5%	1/10W
R5135	1-216-101-00	RES-CHIP	150K	5%	1/10W
R5136	1-216-073-91	RES-CHIP	10K	5%	1/10W
R5139	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R5140	1-216-033-00	RES-CHIP	220	5%	1/10W
R5145	1-216-025-11	RES-CHIP	100	5%	1/10W
R5155	1-216-025-11	RES-CHIP	100	5%	1/10W
R6000	1-216-037-00	RES-CHIP	330	5%	1/10W
R6001	1-216-645-11	METAL CHIP	560	0.5%	1/10W
R6003 ⚠	1-202-933-61	FUSIBLE	0.1	10%	1/2W
R6004	1-216-053-00	RES-CHIP	1.5K	5%	1/10W
R6005	1-216-049-11	RES-CHIP	1K	5%	1/10W
R6006 ⚠	1-202-719-00	SOLID	1M	10%	1/2W
R6008	1-216-073-91	RES-CHIP	10K	5%	1/10W
R6009	1-216-677-11	METAL CHIP	12K	0.5%	1/10W
R6010	1-215-481-00	METAL	330K	1%	1/4W
R6011	1-216-059-00	RES-CHIP	2.7K	5%	1/10W
R6012	1-249-429-11	CARBON	10K	5%	1/4W
R6013 ⚠	1-219-720-91	METAL	10M	5%	1W
R6014	1-216-053-00	RES-CHIP	1.5K	5%	1/10W
R6015	1-215-385-00	METAL	33	1%	1/4W
R6016	1-216-101-00	RES-CHIP	150K	5%	1/10W
R6017	1-216-099-00	RES-CHIP	120K	5%	1/10W
R6019	1-216-049-11	RES-CHIP	1K	5%	1/10W
R6021	1-216-113-00	RES-CHIP	470K	5%	1/10W
R6022	1-216-073-91	RES-CHIP	10K	5%	1/10W
R6023	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R6024	1-216-001-00	RES-CHIP	10	5%	1/10W
R6025	1-216-073-91	RES-CHIP	10K	5%	1/10W
R6029	1-216-073-91	RES-CHIP	10K	5%	1/10W
R6032	1-249-417-11	CARBON	1K	5%	1/4W
R6033	1-215-481-00	METAL	330K	1%	1/4W
R6034	1-217-625-00	METAL	0.05	10%	2W
R6035	1-260-300-11	CARBON	4.7	5%	1/2W
R6036	1-249-413-11	CARBON	470	5%	1/4W
R6037	1-216-041-00	RES-CHIP	470	5%	1/10W
R6039	1-208-814-91	METAL CHIP	22K	0.5%	1/10W
R6040	1-208-830-11	METAL CHIP	100K	0.5%	1/10W
R6041	1-216-097-11	RES-CHIP	100K	5%	1/10W
R6042	1-249-405-11	CARBON	100	5%	1/4W
R6043	1-216-089-91	RES-CHIP	47K	5%	1/10W
R6045	1-216-073-91	RES-CHIP	10K	5%	1/10W
R6047	1-216-049-11	RES-CHIP	1K	5%	1/10W
R6048	1-215-481-00	METAL	330K	1%	1/4W
R6049	1-208-805-11	METAL CHIP	9.1K	0.5%	1/10W
R6050	1-208-758-11	METAL CHIP	100	0.5%	1/10W
R6051 ⚠	1-220-926-11	FUSIBLE	0.47	10%	1/2W
R6054	1-216-001-00	RES-CHIP	10	5%	1/10W
R6056	1-216-365-00	METAL OXIDE	0.47	5%	2W
R6140	1-249-397-11	CARBON	22	5%	1/4W
R7106	1-216-025-11	RES-CHIP	100	5%	1/10W
R7107	1-216-025-11	RES-CHIP	100	5%	1/10W
R7108	1-216-025-11	RES-CHIP	100	5%	1/10W
R7109	1-216-049-11	RES-CHIP	1K	5%	1/10W
		< RELAY >			
RY6001 ⚠	1-755-388-11	RELAY (AC POWER)			
		< SWITCH >			
S0001	1-692-431-21	SWITCH, TACTILE			
S0002	1-692-431-21	SWITCH, TACTILE			
S0003	1-692-431-21	SWITCH, TACTILE			
S0004	1-692-431-21	SWITCH, TACTILE			
S0005	1-692-431-21	SWITCH, TACTILE			
S0006	1-692-431-21	SWITCH, TACTILE			
S6001 ⚠	1-571-433-21	SWITCH, PUSH (AC POWER)			
SW5032	1-572-707-11	SWITCH, LEVER			
		< TRANSFORMER >			
T5011 ⚠	1-453-372-21	TRANSFORMER ASSY, FLYBACK (NX-4521//2214)			
T5031	1-437-210-11	TRANSFORMER, HORIZONTAL DRIVE			
T5032	1-426-981-91	TRANSFORMER, FERRITE (PMT)			
T5033	1-435-346-11	TRANSFORMER, HORIZONTAL LINEAR			
T6001 ⚠	1-428-896-11	COIL, LINE FILTER			
T6003 ⚠	1-435-977-11	TRANSFORMER, CONVERTER (PIT)			
T6102 ⚠	1-437-483-11	TRANSFORMER, STANDBY			
		< THERMISTOR >			
TH6001 ⚠	1-803-951-11	THERMISTOR, PTC			
		< VARISTOR >			
VD6001 ⚠	1-804-995-11	VARISTOR			
		< CRYSTAL >			
X0001	1-578-774-71	VIBRATOR, CRYSTAL			
X2001	1-760-628-11	VIBRATOR, CRYSTAL			

Note : The components identified by shading and marked ⚠ are critical for safety. Replace only with the part numbers specified in the parts list.

A

REF.NO.	PART.NO	DESCRIPTION	REMARK

A Board, Variant Parts KV-29CL10B

< TUNER >

TU1001	8-598-535-20	FRONTEND BTF-EF411	

A Board, Variant Parts KV-29CL10E/KV-29CL10K

< TUNER >

TU1001	8-598-533-10	FRONTEND BTF-EC411	

A Board, Variant Parts KV-29CL10U

< TUNER >

TU1001	8-598-529-10	FRONTEND BTF-EU611	

REF.NO.	PART.NO	DESCRIPTION	REMARK

MISCELLANEOUS

⚠	1-571-433-21	SWITCH, PUSH (AC POWER)	
⚠	1-424-733-11	COIL, PFC CHOKE 65MMH	
⚠	1-823-715-11	CORD, POWER (KV-29CL10B/29CL10E/29CL10K)	
⚠	1-776-860-11	POWER CORD, FILTER (UK) (KV-29CL10U)	
⚠	1-453-372-21	TRANSFORMER ASSY, FLYBACK (NX4521//Z214)	
	8-598-535-20	FRONTEND BTF-EF411 (KV-29CL10B)	
	8-598-533-10	FRONTEND BTF-EC411 (KV-29CL10E/29CL10K)	
	8-598-529-10	FRONTEND BTF-EU611 (KV-29CL10U)	
	1-529-988-11	SPEAKER (4.2X24CM)	
⚠	8-735-097-05	PICTURE TUBE (M68LNH060X)	
⚠	8-451-494-51	DEFLECTION YOKE (Y29RSA-L)	
	1-452-896-11	COIL, NA ROTATION (RT200)	
⚠	8-453-011-11	NECK ASSY NA299-M	
⚠	1-416-654-21	COIL, DEMAGNETIC	
⚠	1-251-946-21	CAP ASSY, HIGH-VOLTAGE	
	1-452-094-00	MAGNET, ROTATABLE DISK; 15MM Ø	
	1-452-032-00	MAGNET, DISK; 10MM Ø	

ACCESSORIES AND PACKAGING MATERIALS

	*4-029-168-01	BAG, PROTECTION
	*4-093-666-01	CUSHION LOWER
	*4-093-665-01	CUSHION UPPER
	*4-093-664-01	CARTON, INDIVIDUAL
	4-093-786-41	MANUAL, INSTRUCTION (KV-29CL10B) (GERMAN/FRENCH/ITALIAN/DUTCH)
	4-093-786-51	MANUAL, INSTRUCTION (KV-29CL10B) (ENGLISH)
	4-093-786-11	MANUAL, INSTRUCTION (KV-29CL10E) (GERMAN/GREEK/TURKISH)
	4-093-786-21	MANUAL, INSTRUCTION (KV-29CL10E) (ITALIAN)
	4-093-786-31	MANUAL, INSTRUCTION (KV-29CL10E) (SPANISH/PORTUGUESE/DANISH/FINNISH/NORWEGIAN/SWEDISH)
	4-093-786-61	MANUAL, INSTRUCTION (KV-29CL10K) (ENGLISH/BULGARIAN/CZECH/HUNGARIAN/POLISH/RUSSIAN)
	4-093-786-71	MANUAL, INSTRUCTION (KV-29CL10U) (ENGLISH)

REMOTE COMMANDER

	1-477-789-11	COMMANDER STANDARD (RM-946)